Access DB# 70821

# SEARCH REQUEST FORM

**Scientific and Technical Information Center**

Requester's Full Name: Eduardo C. Robert Examiner #: 74012 Date: 7/15/02
Art Unit: 3732 Phone Number 305-7333 Serial Number: 09/660,287
Mail Box and Bldg/Room Location: CP1-2132C Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

**********

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Bone Plating System

Inventors (please provide full names): Paul Weaver; Jeff Mast; Keith Ma
Brett Bolhatwen

Earliest Priority Filing Date: 9/13/1999

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

I am looking for a method of fracture fixation comprising the steps set forth in claim 18 (attached hereto).

**********

**STAFF USE ONLY**

Searcher: JEANNE HOLLIGAN
Searcher Phone #: 305-5934
Searcher Location: CP2-2C08
Date Searcher Picked Up: 7-23
Date Completed: 7-23

**Type of Search**

NA Sequence (#)
AA Sequence (#)
Structure (#)
Bibliographic ✓
Litigation
Fulltext
Patent Family

**Vendors and cost where applicable**

STN
Dialog ✓
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

July 23, 2002

TO: Eduardo Robert, Art Unit 3732
CP2, Room 2-B-24

FROM: Jeanne Horrigan, EIC-3700

SUBJECT: Search Results for Serial #09/660287

Attached are the search results for the "Bone Plating System," including results of prior art and inventor searches in foreign patent databases, and prior art searches in medical and general sci/tech non-patent databases.

In the results, a highlighted line marks the end of a search, including the search strategy, in a particular set of databases and the beginning of a new search in a different set of databases.

I found a lot of articles reviewing and evaluating various fracture fixation methods. I tagged several of them. In general, I tagged the items that seemed to me to be most relevant, but **I suggest that you review all of the results**.

Also attached is a "*Search Results Feedback Form*." Your feedback will help enhance our search services.

I hope these results are useful. Please let me know if you would like me to expand or modify the search or if you have any questions.

6/34/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013760463 **Image available**
WPI Acc No: 2001-244675/200125
**Bone plating system for fixation of bone fracture has bone plate with threaded holes and non-threaded holes for insertion seating of different screws to implant bone plate into treated bone**
Patent Assignee: SYNTHES AG (SYNT-N); SYNTHES USA (SYNT-N)
Inventor: BOLHOFNER B R ; LITTLE D ; MAST J W ; MAYO K A ; WEAVER P C
Number of Countries: 026 Number of Patents: 003
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|
| WO 200119267 | A1 | 20010322 | WO 2000CH474 | A | 20000906 | 200125 B |
| AU 200066803 | A | 20010417 | AU 200066803 | A | 20000906 | 200140 |
| EP 1211992 | A1 | 20020612 | EP 2000954253 | A | 20000906 | 200239 |
| | | | WO 2000CH474 | A | 20000906 | |

Priority Applications (No Type Date): US 99153239 P 19990913
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 200119267 | A1 | E | 28 | A61B-017/80 | |

Designated States (National): AU CA CN JP KR US ZA
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

| | | | | |
|---|---|---|---|---|
| AU 200066803 | A | | A61B-017/80 | Based on patent WO 200119267 |
| EP 1211992 | A1 | E | A61B-017/80 | Based on patent WO 200119267 |

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Abstract (Basic): WO 200119267 A1
NOVELTY - The threaded holes (36) and the non-threaded holes (38) are formed in the upper surface (32) of a bone plate (30). A screw with a threaded shaft and a threaded head is inserted to engage with the threads (40) of each threaded hole. A screw with a threaded shaft and a head is pierced into the non-threaded hole. Both screws remain seated into the respective holes as long as the bone plate is implanted into a bone.
**DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a bone fracture fixation method.**
USE - Applicable for fixation of bone fracture.
ADVANTAGE - Utilizes self-tapping screw or self-driving screw which can be cannulated for insertion of a guide wire to guide screw placement. Enables treating bone fracture by implanting bone plate into bone using screws. Improves flexibility during use by surgeon since additional plate holes without screws can be formed.
DESCRIPTION OF DRAWING(S) - The figure shows the perspective view of portion of a bone plate used in bone plating system.
Bone plate (30)
Upper surface (32)
Threaded holes (36)
Non-threaded holes (38)
Threads (40)
pp; 28 DwgNo 3/26
Derwent Class: P31
International Patent Class (Main): A61B-017/80

9/26,TI/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
012113829
WPI Acc No: 1998-530741/199845
Osteosynthetic bone plate and lock washer - with lock washer including lower section adapted to abut the surface of bone and upper section shaped to be retained in plate borehole

9/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
010905143
WPI Acc No: 1996-402094/199640
Insert for connecting bone screw to bone plate - has upper and lower sections with central hole, upper section having upwardly facing surface for engaging bone screw head, and downwardly facing locking surface for contacting surface of plate hole

9/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
009711217
WPI Acc No: 1993-404770/199350
Screw nut for plate osteosynthesis - has cylindrical body with central hole and internal thread designed to receive bone screw having a smaller upper section than lower

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200246
File 344:CHINESE PATENTS ABS MAY 1985-2002/MAY
File 347:JAPIO Oct 1976-2002/Mar(Updated 020702)
File 371:French Patents 1961-2002/BOPI 200209

| Set | Items | Description |
|---|---|---|
| S1 | 2 | AU='WEAVER P C' |
| S2 | 8 | AU='MAST J W' |
| S3 | 1 | AU='MAYO K A' |
| S4 | 2 | AU='BOLHOFNER B R':AU='BOLHOFNER K R' |
| S5 | 20 | AU='LITTLE D' |
| **S6** | **1** | **S1 AND S2 AND S3 AND S4 AND S5** |
| S7 | 28 | S1:S5 NOT S6 |
| S8 | 350 | BONE()PLAT??? |
| **S9** | **3** | **S7 AND S8** |

11/6/1 (Item 1 from file: 348)
00800816
INSERT FOR CONNECTING A BONE SCREW TO A BONE PLATE

11/6/2 (Item 2 from file: 348)
00644091
STRAIN WASHER FOR PLATE OSTEOSYNTHESIS

11/6/3 (Item 1 from file: 349)
00841099 **Image available**
DEVICE FOR ROTATIONAL STABILIZATION OF BONE SEGMENTS
Publication Year: 2001

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 11/6/4      (Item 2 from file: 349)
00343380     **Image available**
INSERT FOR CONNECTING A BONE SCREW TO A  BONE   PLATE
Publication Year: 1996

 11/6/5      (Item 3 from file: 349)
00268461     **Image available**
STRAIN WASHER FOR PLATE OSTEOSYNTHESIS
Publication Year: 1994

File 348:EUROPEAN PATENTS 1978-2002/Jul W02
File 349:PCT FULLTEXT 1983-2002/UB=20020718,UT=20020711
Set     Items   Description
S1          5   AU='WEAVER PAUL':AU='WEAVER PAUL C'
S2          6   AU='MAST JEFF W':AU='MAST JEFFREY W'
S3          2   AU='MAYO KEITH A'
S4          2   AU='BOLHOFNER':AU='BOLHOFNER BRETT R'
S5         34   AU='LITTLE DAVID':AU='LITTLE DAVID R'
S6          2   S1 AND S2 AND S3 AND S4 AND S5
S7          2   PN='WO 200119267'
S8          0   S6 NOT S7
S9        517   BONE()PLAT???
S10         7   S1:S5 AND S9
S11         5   S10 NOT S6


24/6/3      (Item 3 from file: 5)
12532711   BIOSIS NO.: 200000286213
Threaded insert for  bone   plate  screw hole.
1999

24/6/5      (Item 5 from file: 5)
13499685   BIOSIS NO.: 200200128506
Osteosynthetic  bone   plate  and lock washer.
1998

 24/6/6      (Item 6 from file: 5)
13478661   BIOSIS NO.: 200200107482
Lock washer for  bone   plate  osteosynthesis.
1998

24/6/8      (Item 8 from file: 155)
09740597   98181494   PMID: 9520877
  Biomechanical evaluation of the schuhli nut.
Feb 1998

24/7/4      (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
10137950   99107135   PMID: 9892117
  Results  of  intertrochanteric  femur fractures treated with a 135-degree
sliding screw with a two-hole side plate.
   Bolhofner B R ; Russo P R; Carmen B
  Bayfront Medical Center, St. Petersburg, Florida, USA.
  Journal of orthopaedic trauma (UNITED STATES)   Jan 1999,  13  (1)  p5-8,
ISSN 0890-5339   Journal Code: 8807705
  Document type: Journal Article
```

Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

OBJECTIVE: To observe and report the clinical results of the treatment of intertrochanteric hip fractures treated with a 135-degree hip screw with a two-hole side plate. DESIGN: Prospective consecutive. SETTING: Community private practice. PATIENTS: A consecutive series of seventy primarily older patients with intertrochanteric hip fractures treated in a community hospital setting. INTERVENTION: Surgical treatment with a 135-degree sliding hip screw and a two-hole side plate. MAIN OUTCOME MEASUREMENTS: Healing rate and time, operative blood loss and time, incidence of hardware failure, and complications including loss of side plate fixation and amount of collapse. RESULTS: Sixty-nine patients, with seventy intertrochanteric hip fractures, underwent surgical treatment with a 135-degree sliding hip screw and a two-hole side plate. There were twenty-one (30 percent) A1.1, sixteen (23 percent) A1.2, twenty-one (30 percent) A2.1, and twelve (17 percent) A2.2 fractures in twenty-three (33 percent) men and forty-six (67 percent) women. Average age was seventy-nine years. The average estimated blood loss was seventy-seven cubic centimeters (range 10 to 300 cubic centimeters), and the average surgical time was thirty-one minutes (range 8 to 90 minutes). The average time to union was fifteen weeks (range 8 to 17 weeks). There were three failures: two from screw cut-out and one from screw plate dissociation. No cases failed due to loss of fixation of the two-hole side plate. Collapse was minimum in fifty-five patients (79 percent), moderate in twelve patients (17 percent), and severe in two patients (3 percent). **CONCLUSIONS: Use of the 135-degree sliding hip screw with a two-hole side plate produces satisfactory healing and results in relatively low blood loss and short surgical times without the loss of side plate fixation.**

Record Date Created: 19990310

24/7/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
09740598 98181495 PMID: 9520878

**Patients treated for nonunions with plate and screw fixation and adjunctive locking nuts.**

Kassab S S; Mast J W ; Mayo K A
Department of Orthopaedic Surgery, Wayne State University, Detroit, MI, USA.
Clinical orthopaedics and related research (UNITED STATES) Feb 1998, (347) p86-92, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

Locking nuts were used as an adjunct to plate fixation in 48 procedures in 44 patients. All the procedures were done by one surgeon during a 4-year period. The patients in this study were treated for nonunion or malunion and thus had difficult technical problems, such as cortical defects or holes left from previous hardware. The use of standard implants were generally unreliable for additional fixation. **The locking nuts were used as a cortical substitute in 26 instances, to create a fixed angle relationship between the plate and the screw in 14 instances, to elevate the plate off the bone to help increase vascularity in five instances, and to increase purchase in severely osteoporotic bone in three instances.** Complete followup was obtained on 43 of the 44 patients. Forty of the 43 patients achieved complete union after their reconstructive procedure. Three

patients had continued nonunions with eventual hardware failure and required reoperation. **The use of the locking nuts enabled the surgeons to obtain stable fixation at the time of reoperation with eventual union of all of the ununited bones. The success of the use of this implant is best gauged by the fact that the surgeon could place screws effectively where cortical defects existed, allow improved purchase in osteoporotic bone, and create a fixed angle plate screw relationship that would have been difficult to do without the locking nuts.**
Record Date Created: 19980408

24/7/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
09026933 96403099 PMID: 8926549
The use of endosteal substitution in the treatment of recalcitrant nonunions of the femur: report of seven cases.
Matelic T M; Monroe M T; Mast J W
Department of Orthopaedic Surgery, Wayne State University School of Medicine, Detroit, Michigan, USA.
Journal of orthopaedic trauma (UNITED STATES) 1996, 10 (1) p1-6, ISSN 0890-5339 Journal Code: 8807705
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
**Seven patients, with an average age of 53 years, were treated for bone loss or recalcitrant nonunions of the femur.** The average duration from initial injury to presentation was 37 months (range 4-92 months). The **patients had undergone one to eight (mean, 3.9) previous surgical attempts at achieving union.** The nonunion involved the diaphysis in three patients, the diaphyseal-supracondylar junction in three patients, and the pertrochanteric region in one patient. **All patients were treated using a standard lateral plate in combination with an endosteal plate and primary iliac crest bone grafting.** The mean surgical time was 6.3 h, and the average blood loss was 1.7 L. There were three complications, including one superficial wound infection, one nonfatal pulmonary embolism, and one wound hematoma. At a mean follow-up of 12.6 months (range 4-24 months), all fractures had healed with an average time to union of 19.2 weeks (range 15-36 weeks). Knee flexion averaged 118 degrees (range 100-135 degrees), and all patients were satisfied with the operative procedure. **Endosteal plating, in combination with a standard lateral plate and iliac crest bone-grafting, can successfully treat difficult nonunions of the femur.**
Record Date Created: 19961025

24/7/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
08602275 95361382 PMID: 7634689
**Indirect reduction and composite fixation of extraarticular proximal tibial fractures.**
Bolhofner B R
Bayfront Medical Center, University of South Florida College of Medicine, Tampa, USA.
Clinical orthopaedics and related research (UNITED STATES) Jun 1995, (315) p75-83, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM

Record type: Completed

Forty-one extraarticular comminuted proximal tibial fractures were treated during a 7-year period. The fractures were proximal tibial metaphyseal injuries or metaphyseal-diaphyseal junction injuries with extension proximally and distally but not involving the knee joint. **All fractures were treated surgically with open reduction and internal fixation using an indirect reduction technique with a lateral plate, and a medial substitution external fixator concomitantly.** All fractures were seen for followup until they healed (average healing time, 12.1 weeks). The timing of internal fixation was based on the status of the soft tissue (average time to surgery, 8.5 days after injury). A temporary spanning external fixator was used in 17 (41.5%) fractures to allow for further assessment, demarcation, and improvement of the anterior soft tissues. There were 3 (7%) delayed unions, 1 (2%) malunion, and no nonunions. There were 2 (5%) wound infections and 5 (12%) pin track problems. One postsurgical soft tissue problem was encountered. **Through this technique, reliable healing and alignment were achieved in this often difficult fracture pattern, particularly for fractures that were difficult or impossible to treat with an intermedullary nail.**

Record Date Created: 19950913

24/7/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
08188943 94326489 PMID: 8050220

**Acetabular fracture fixation via a modified Stoppa limited intrapelvic approach. Description of operative technique and preliminary treatment results.**

Cole J D; Bolhofner B R
Matthews Orthopaedic Clinic, Orlando, FL 32806.

Clinical orthopaedics and related research (UNITED STATES) Aug 1994, (305) p112-23, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

Between March 1991 and December 1992 the authors surgically treated 55 acetabular fractures using a modified Stoppa anterior intrapelvic extensile approach. Indications for utilization of this approach included displaced anterior column or wall fractures, transverse fractures, T shaped fractures, both column fractures and anterior column or wall fractures associated with a posterior hemitransverse component. The approach involves a transverse skin incision 2 cm above the pubic symphysis followed by a midline split of the rectus abdominis. Access to the intrapelvic aspect of the pelvis and acetabulum is gained by retraction of the muscular, neurovascular and urological structures. This modified Stoppa approach affords excellent visualization of the pelvic ring, facilitating the development and utilization of improved reduction and plating options. Patients were followed for an average of 17.7 months. All fractures united 6-12 weeks postoperatively. Radiographic grades were excellent (64%), good (25%), fair (7%) and poor (4%). Fixation and subsequent reduction were lost in 1 patient. Two transient obturator nerve palsies were diagnosed. There was 1 infection and 1 inguinal hernia. Posttraumatic arthritic changes were noted in 6 patients within the first postoperative year. There was no significant heterotopic ossification, major vascular injury iatrogenic palsy or intraarticular hardware placement. Clinical results were excellent (47%), good (42%), fair (9%) and poor (2%). The **modified Stoppa incision offers the experienced trauma surgeon a new approach for fixation of**

**displaced acetabular fractures. The approach offers improved reduction and fixation possibilities and may decrease the rate of complications associated with extrapelvic or extensile approaches.**
Record Date Created: 19940908

24/7/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06843820 91159128 PMID: 2073446
**Biological internal fixation of fractures.**
Gerber C; Mast J W ; Ganz R
Department of Orthopaedic Surgery, University of Bern, Inselspital, Switzerland.
Archives of orthopaedic and trauma surgery (GERMANY) 1990, 109 (6) p295-303, ISSN 0936-8051 Journal Code: 9011043
Erratum in Arch Orthop Trauma Surg 1991;110(4) 226
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Trauma centers treat more and more patients who have sustained multiple injuries during high energy accidents. **The techniques of internal fixation of such fractures may be dictated by the concomitant soft tissue trauma, rather than by the bony injury.** Three stages of soft tissue injuries are recognised: Stage I delineates compromised soft tissues which may be treated with standard techniques of internal fixation, provided that further devialization by surgery is avoided. Stage II implies partial, non-circumferential destruction of soft tissues, requiring alternative techniques of internal fixation to prevent (mainly septic) complications. In stage III, the soft tissues about the fracture site are destroyed and need early, specific soft tissue reconstruction. **Indirect reduction without further devascularization of bone, aiming at perfect alignment rather than anatomical reduction of extraarticular fractures, optimal rather than maximal internal fixation as well as the inclusion of soft tissue reconstructive procedures into the armamentarium of the orthopaedic surgeon, require an intellectual and technical reorientation but can be shown to improve the results of the treatment of fractures with concomitant soft tissue injury.**
Record Date Created: 19910415

24/7/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06704048 91016359 PMID: 2216406
Pauwels osteotomy for nonunions of the femoral neck.
Ballmer F T; Ballmer P M; Baumgaertel F; Ganz R; Mast J W
Department of Orthopedic Surgery, University of Berne, Inselspital, Switzerland.
Orthopedic clinics of North America (UNITED STATES) Oct 1990, 21 (4) p759-67, ISSN 0030-5898 Journal Code: 0254463
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
The concept of the Pauwels osteotomy seems to be a valuable method of treating nonunions of the femoral neck. If there is concomitant avascular necrosis, the involved area should be small and the patient younger than 60 years old.

Record Date Created: 19901121

24/7/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06704045 91016356 PMID: 2216403
**Treatment of tibial malunions and nonunions with reamed intramedullary nails.**
Mayo K A ; Benirschke S K
Department of Orthopaedics, Harborview Medical Center, University of Washington, Seattle.
Orthopedic clinics of North America (UNITED STATES) Oct 1990, 21 (4) p715-24, ISSN 0030-5898 Journal Code: 0254463
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Reamed intramedullary nailing is an effective, relatively low-risk technique for the management of delayed union, nonunion, and malunion of the tibia. Closed technique should be used where possible and open realignment, when necessary, should be executed with minimal dissection. Bone grafting is rarely indicated. The use of interlocking nails provides an added degree of security in the control of rotation.
Record Date Created: 19901121

24/7/15 (Item 15 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06024840 89090283 PMID: 2910593
**Subtrochanteric fractures of the femur. Results of treatment with the 95 degrees condylar blade-plate.**
Kinast C; Bolhofner B R ; Mast J W ; Ganz R
Department of Orthopaedic Surgery, University of Berne, Switzerland.
Clinical orthopaedics and related research (UNITED STATES) Jan 1989, (238) p122-30, ISSN 0009-921X Journal Code: 0075674
Comment in Clin Orthop. 1989 Dec;(249) 285-7; Comment in PMID 2582675; Comment in Clin Orthop. 1990 Feb;(251):308-9; Comment in PMID 2295191
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
The results were retrospectively analyzed of **47 subtrochanteric fractures of the femur treated with a 95 degrees condylar blade-plate to establish whether two different surgical techniques yielded different results.** Before 1981, treatment consisted of extensive visualization of the fracture lines, permitting anatomic reduction of all fragments, stable internal fixation with the blade-plate, and optional autologous bone grafting as recommended by the AO group. Twenty-four fractures were treated accordingly and constituted Group I of this study. In 1981, visualization of the fracture lines was abandoned, especially at the medial cortex; an indirect reduction technique was used to gain optimal alignment and stability without aiming at anatomic reduction, and bone grafting was discontinued. Twenty-three patients were treated accordingly and constituted Group II. The use of prophylactic antibiotics as a routine for all major trauma was instituted at the time the surgical technique was changed. Thus, only two of the 24 patients in Group I received antibiotics as opposed to 20 of the 23 patients in Group II. Average time to bony union for those fractures that healed primarily was 5.4 months in Group I and 4.2 months in Group II. Delayed or nonunion was 16.6% in Group I and 0% in Group II, and the

infection rate was 20.8% versus 0% in the two groups. The four cases with a delayed union were aseptic, but three of the four nonunions were infected. The functional end result was comparable for both groups.(ABSTRACT TRUNCATED AT 250 WORDS)
Record Date Created: 19890214

24/7/16 (Item 16 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
05831153 88253950 PMID: 3383491
**A new periacetabular osteotomy for the treatment of hip dysplasias. Technique and preliminary results.**
Ganz R; Klaue K; Vinh T S; Mast J W
Department of Orthopaedic Surgery, University of Berne, Switzerland.
Clinical orthopaedics and related research (UNITED STATES) Jul 1988, (232) p26-36, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
A new periacetabular osteotomy of the pelvis has been used for the treatment of residual hip dysplasias in adolescents and adults. The identification of the joint capsule is performed through a Smith-Petersen approach, which also permits all osteotomies to be performed about the acetabulum. This osteotomy does not change the diameter of the true pelvis, but allows an extensive acetabular reorientation including medial and lateral displacement. Preparations and injections of the vessels of the hip joint on cadavers have shown that the osteotomized fragment perfusion after correction is sufficient. Because the posterior pillar stays mechanically intact the acetabular fragment can be stabilized sufficiently using two screws. This stability allows patients to partially bear weight after osteotomy without immobilization. Since 1984, 75 periacetabular osteotomies of the hip have been performed. The corrections are 31 degrees for the vertical center-edge (VCE) angle of Wiberg and 26 degrees for the corresponding angle of Lequesne and de Seze in the sagittal plane. Complications have included two intraarticular osteotomies, a femoral nerve palsy that resolved, one nonunion, and ectopic bone formation in four patients prior to the prophylactic use of indomethacin. Thirteen patients required screw removal. There was no evidence of vascular impairment of the osteotomized fragment.
Record Date Created: 19880801

24/7/17 (Item 17 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
01550372 EMBASE No: 1980233666
**Internal fixation of forearm diaphyseal fractures: Double plating versus single compression (tension band) plating - A comparative study**
Teipner W.A.; Mast J.W.
Dept. Surg., Univ. Nevada Sch. Med. Sci., Reno, Nev. 89520 United States
Orthopedic Clinics of North America ( ORTHOP. CLIN. NORTH AM. ) (United States) 1980, 11/3 (381-391)
CODEN: OCLNA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH
Eighty-four fresh diaphyseal fractures of the forearm in 55 patients were treated by double plates, with bone union occurring in 97.6 per cent.

Seventy fresh diaphyseal fractures of the forearm in 48 patients were treated by single compression plates (tension band plates) with bone union occurring in 100 per cent. In both series, other than infection (two in the double plating series and none in the compression plating series), the major complication was synostosis. This matter is being further investigated at this time by one of the authors (JWM) in an attempt to abort this most distressing complication. The other major complication is related to the stress riser effect of the implant, particularly after hardware removal. **There still remains some difference of opinion as to whether metal has to be removed, and in general, unless there is a clear-cut indication for its removal, we do not do so.** We now believe that double plating and single compression plating (tension band plating) will insure a high rate of union, a generally excellent functional result, and a low complication rate. However, ASIF (AO) plating provides a somewhat shorter operative time and, at least theoretically, less stress protection of bone and possibly less devitalization of tissue because of the need for less soft tissue stripping for exposure. Therefore, in our clinic for the most part we now use single tension band plating for displaced diaphyseal fractures of the forearm in the adult.

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File 155:MEDLINE(R) 1966-2002/Jul W2
File   5:Biosis Previews(R) 1969-2002/Jul W2
File  73:EMBASE 1974-2002/Jul W2
File  34:SciSearch(R) Cited Ref Sci 1990-2002/Jul W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
Set     Items   Description
S1         54   AU='WEAVER P C'
S2         27   AU='WEAVER PC'
S3         23   AU='WEAVER P.C.'
S4          1   AU='WEAVER PAUL C'
S5         40   AU='MAST J W'
S6         27   AU='MAST J.W.'
S7         31   AU='MAST JW'
S8          1   AU='MAST JEFFREY W'
S9         40   AU='MAYO K A'
S10        21   AU='MAYO K.A.'
S11        26   AU='MAYO KA'
S12        28   AU='BOLHOFNER B':AU='BOLHOFNER BRETT R'
S13       236   AU='LITTLE D'
S14        50   AU='LITTLE D.'
S15        26   AU='LITTLE DAVID':AU='LITTLE DAVID R'
S16         0   S1:S4 AND S5:S8 AND S9:S11 AND S12 AND S13:S15
S17       609   S1:S15
S18      9035   BONE()PLAT???
S19        22   S17 AND S18
S20        18   RD (unique items)
S21         3   S20/2002 OR S20/2001 OR S20/2000
S22        19   S19 NOT S21
S23        17   RD (unique items)
S24        17   Sort S23/ALL/PY,D

13/6,K/4
DIALOG(R)File 155:
08842403   96201171   PMID: 8614080
```

**Surgical neck fractures of the proximal humerus: a laboratory evaluation of ten fixation techniques.**

May 1996
... the second strongest fixation technique, providing significantly stronger fixation ($p < 0.01$) than all the remaining techniques. Four Schanz pins with one pin placed through the greater tuberosity followed by the T-plate and screws...
Descriptors: Bone Nails--standards--ST; * Bone Plates --standards--ST; *Bone Screws--standards--ST; * Fracture Fixation, Internal --instrumentation--IS; *Shoulder Fractures--surgery--SU

13/6,K/5
DIALOG(R)File 155:
08014758 94154080 PMID: 8110904
Polyglyconate plates and screws to stabilize zygomatic osteotomies in a rabbit model.
Oct 1993
Rigid internal fixation with miniplates and screws continues to be widely used in the correction of both congenital and acquired craniomaxillofacial deformities. This...
Descriptors: Bone Plates ; *Bone Screws; * Fracture Fixation, Internal --methods--MT; *Polymers; *Zygomatic Fractures--surgery--SU

13/6,K/6
DIALOG(R)File 155:
06382540 90077641 PMID: 2592088
Implant failures in patients with proximal fractures of the femur treated with a sliding screw device.
Mar 1989
... femur had been penetrated at the time of insertion. In all but one of the remaining seven cases the screw had been inserted in the superior half of the head and neck of the femur...
Descriptors: Bone Plates ; *Bone Screws; * Fracture Fixation, Internal ; *Hip Fractures--surgery--SU

13/6,K/7
DIALOG(R)File 155:
06080933 89155316 PMID: 2921204
Repair of sixth lumbar vertebral fracture-luxations, using transilial pins and plastic spinous-process plates in six dogs.
Feb 15 1989
... and 2 dogs with multiple concurrent orthopedic injuries had no improvement in neurologic function and remained nonambulatory. Pin migration associated with improper bending of the transilial pins and requiring early implant removal was...
Descriptors: Dislocations--veterinary--VE; *Dogs--injuries--IN; * Fracture Fixation, Internal --veterinary--VE; *Fractures--veterinary--VE; *Lumbar Vertebrae--injuries--IN; Bone Nails--veterinary--VE; Bone Plates --veterinary--VE; Dislocations--surgery--SU; Dogs--surgery--SU; Fractures --surgery--SU; Lumbar Vertebrae--radiography...

13/6,K/8
DIALOG(R)File 155:
05789951 88217685 PMID: 3368412
Tissue reaction to implant corrosion in 38 internal fixation devices.
Mar 1988
...devices included seven upper extremity bone plates, 19 lower extremity bone plates, and 12 hip screw plates. The devices remained in situ an

average of 20.4 months (range, 3 to 60 months). Routine asymptomatic...
Descriptors: Bone and Bones--pathology--PA; * Fracture Fixation, Internal --instrumentation--IS; *Prostheses and Implants; Adolescence; Adult; Aged; Bone Plates ; Bone Screws; Child; Child, Preschool; Corrosion; Middle Age; Regression Analysis; Time Factors

13/6,K/10
DIALOG(R)File 155:
02639003 77218495 PMID: 878782
[Osteosynthesis of condylar and suprakondylar femoral fractures using adjusted plates]
1977
Descriptors: Bone Plates ; *Femoral Fractures--surgery--SU; * Fracture Fixation, Internal --methods--MT; Accidents, Traffic; Adult; Bone Screws ; Length of Stay ; Middle Age; Traction

13/7/2
DIALOG(R)File 155:MEDLINE(R)
10801859 20355474 PMID: 10897283
**Minimally invasive plate fixation in femoral shaft fractures.**
Wenda K; Runkel M; Degreif J; Rudig L
Klinik fur Unfall- und Wiederherstellungschirurgie, Dr. Horst-Schmidt-Kliniken Wiesbaden, Germany.
Injury (ENGLAND) 1997, 28 Suppl 1 pA13-9, ISSN 0020-1383
Journal Code: 0226040
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Bridge-plating with its advantages in terms of vascularity and bone healing is a well established procedure today in the treatment of comminuted femoral fractures. Bridge-plating means that the fracture site is not interfered with during the operative procedure. **This paper introduces a surgical technique in which the plate is inserted through isolated proximal and distal incisions only, behind the vastus lateralis. Alignment is secured by the plates, the fracture site remains untouched, fixation and screw insertion is restricted to the proximal and distal main fragments.** Longitudinal femoral fractures extending right into the trochanteric and or condylar areas are the main indication for minimally invasive plate fixations with angled blade plates or condylar screws since fractures which are restricted to the diaphyseal area are mostly treated by nailing today. The surgical trauma resulting from plating by proximal and distal incisions only is less than that associated with conventional techniques. Indirect reduction of femoral fragments is much easier since the integrity of the surrounding muscles and soft tissue is preserved, the fragments often being reduced simply by traction. Adjustment of rotation is an essential aspect requiring careful attention. For special indications, namely comminuted fractures affecting a large part of the femur and extending into the trochanteric or condylar areas, insertion of the plate via proximal and distal incisions only is a further development in bridge-plating which minimizes surgical trauma and operation time.
Record Date Created: 20000727

13/7/9
DIALOG(R)File 155:MEDLINE(R)
02831470 78150502 PMID: 346542

[The management of mandibular fractures by internal fixation (author's transl)]
Zur Behandlung der Unterkieferfrakturen mit Kompressionsosteosynthese.
Raveh J; Neiger M
HNO (GERMANY, WEST) Apr 1978, 26 (4) p125-31, ISSN 0017-6192
Journal Code: 2985099R
Document type: Journal Article ; English Abstract
Languages: GERMAN
Main Citation Owner: NLM
Record type: Completed
**The results of treating mandibular fractures with rigid internal fixation are discussed. This method was used in 55 patients through the application of dynamic compression plates. The technique was then assessed critically and the followup treatment evaluated.** Indications and contraindications for the procedure are discussed, as are possible errors or complications. In addition, selected cases illustrating the advantages of the procedure for reconstruction and functional rehabilitation of mandibular defects following ablative surgery or trauma are described.
Record Date Created: 19780617

File 155:MEDLINE(R) 1966-2002/Jul W2

| Set | Items | Description |
|---|---|---|
| S1 | 6076 | R1:R3 |
| S2 | 15772 | R1:R5 |
| S3 | 17528 | R7:R9 |
| S4 | 279 | FASTENER? OR FASTENING? |
| S5 | 16609 | SCREW OR SCREWS OR FIXATOR? |
| S6 | 30769 | NAIL? ? OR PIN OR PINS OR WIRE OR LOCKING()NUT? ? |
| S7 | 775759 | STAY??? OR REMAIN??? OR CONTINU??? |
| S8 | 6076 | R1:R3 |
| S9 | 167 | S1 AND S2:S3 AND S4:S6 AND S7 |
| S10 | 3586 | S1 AND S2:S3 |
| S11 | 0 | S10 (S) S4:S6(3N)S7 |
| S12 | 325 | S4:S6(3N)S7 |
| **S13** | **10** | **S10 AND S12** |
| S14 | 1785 | S1/DE AND S2:S3/DE AND S4:S6/DE |
| S15 | 133 | S7 AND S14 |
| S16 | 7 | S7(3N)S4:S6 AND S14 |
| S17 | 0 | S16 NOT S13 |
| S18 | 59 | S4:S6()S7 |
| S19 | 0 | S14 AND S59 |
| **S20** | **1** | **S14 AND S18 [a duplicate]** |
| S21 | 2 | S9 AND S18 |
| **S22** | **1** | **S21 NOT S20 [a duplicate]** |

5/6,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:
10080847 99062758 PMID: 9846328
[Fracture of the great trochanter treated by dynamic hip screw plate: measure of impaction according to fracture type]
Oct 1998
... ratio (16 males). One hundred and thirty five degrees free sliding plates were employed for fracture fixation . Full weight bearing was allowed in 78.6 per cent of patients. According to Ender...
... and 8. The results were assessed on AP and lateral X-rays. The ratio

between screw thread length (constant) and screw outside the barrel length, was used to measure impaction on AP...
Descriptors: Bone Plates ; *Bone Screws; * Fracture Fixation , Internal; *Hip Fractures--surgery--SU; *Postoperative Complications --etiology--ET

5/6,K/5 (Item 5 from file: 155)
DIALOG(R)File 155:
06152487 89225528 PMID: 2565660
[Spongiosa formation in plate osteosynthesis--a comparative animal experiment study of current and auto-compression plates using the Zespol principle] Apr 1989
... we have the pressure strain on the bone surface; the traction strain exercised by the screw thread in the bone; and, chiefly, spongiotisation and bone atrophy due to so-called stress protection...
Descriptors: Bone Plates ; * Fracture Fixation , Internal --instrumentation--IS; *Pseudarthrosis--prevention and control--PC; *Wound Healing

5/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
09864977 98280756 PMID: 9619457
Unstable femoral neck fractures in young adults: treatment with the AO 130-degree blade plate.
Broos P L; Vercruysse R; Fourneau I; Driesen R; Stappaerts K H
Department of Traumatology and Reconstructive Surgery, University Hospital Gasthuisberg, Leuven, Belgium.
Journal of orthopaedic trauma (UNITED STATES) May 1998, 12 (4) p235-39; discussion 240, ISSN 0890-5339 Journal Code: 8807705
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
**OBJECTIVE: To evaluate the clinical outcome of the treatment of unstable femoral neck fractures using the AO 130-degree blade plate.** DESIGN: Between 1980 and 1994, thirty-four consecutive patients younger than age fifty years with an unstable intracapsular femoral neck fracture (Garden Types III-IV) were treated with internal fixation. SETTING: University Hospital Gasthuisberg, Leuven, Belgium. INTERVENTION: **The AO 130-degree blade plate with an antirotation, 6.5-millimeter, partially threaded cancellous lag screw was used.** RESULTS: Nineteen (63.3 percent) patients had an excellent result, seven (23.3 percent) had a good result, three (10 percent) had a fair result, and one (3.3 percent) had a poor result. Delayed union was observed in one case, and avascular necrosis was observed in two cases. Two implants perforated the subchondral bone. CONCLUSION: Stable fixation with the AO 130-degree blade plate avoids damage to the adjacent blood supply to the femoral head and appears to guarantee a good final outcome of unstable intracapsular femoral neck fractures in young adults.
Record Date Created: 19980723

5/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
08480826 95238025 PMID: 7721471
Effects of method of internal fixation of symphyseal disruptions on stability of the pelvic ring.
Varga E; Hearn T; Powell J; Tile M

Orthopaedic Biomechanics Research Laboratory, Sunnybrook Health Science Centre, Toronto, Ontario, Canada.
Injury (ENGLAND) Mar 1995, 26 (2) p75-80, ISSN 0020-1383 Journal Code: 0226040
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

**This study tested different methods of internal fixation of a symphyseal disruption, in comparison with the mechanics of the intact pelvis.** Unembalmed cadaveric pelves were tested in simulated bilateral stance in a servohydraulic materials-testing machine. Motion of the superior and inferior pubic symphysis, and at two levels of the posterior sacroiliac complex, was measured using high resolution displacement transducers. The **fixations tested were (1) double plating (4.5 mm reconstruction plates), (2) wire loops around two 6.5 mm, fully threaded cancellous screws , and (3) an absorbable suture material (polydioxanone).** Each pelvis was first tested intact, recording displacements in response to a cyclic axial load up to a maximum of 500 N applied through the proximal sacrum. The pubic symphysis was then sectioned and the sacrum fractured to produce an unstable pelvis (Tile C-type). Recordings were then repeated, following fixation of the sacral fracture with lag screws and sequential fixation of the symphysis with each of the test methods. The results from eight pelves revealed that internally fixed symphyseal motion was generally greater than intact, regardless of fixation method. The superior symphysis was usually compressed, while there was distraction inferiorly. Wiring resulted in significantly less symphyseal motion than the other methods ($P < 0.02$), provided four loops were used, reducing the separation inferiorly. There was no significant difference in sacral fracture motion between the three methods. The results indicate that in osteoporotic bone, as used in this study, symphyseal wiring is best able to oppose the tensile loads in the inferior symphysis that are associated with bilateral stance loading. These biomechanical findings must be interpreted within the broader context of surgical management of these complex injuries.
Record Date Created: 19950525

5/7/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06396682 90107133 PMID: 2295178

Metastatic bone disease. A study of the surgical treatment of 166 pathologic humeral and femoral fractures.

Yazawa Y; Frassica F J; Chao E Y; Pritchard D J; Sim F H; Shives T C
Department of Orthopedics, Mayo Clinic, Rochester, MN 55905.
Clinical orthopaedics and related research (UNITED STATES) Feb 1990, (251) p213-9, ISSN 0009-921X Journal Code: 0075674
Contract/Grant No.: CA23751; CA; NCI
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

**A retrospective study of the surgical treatment of 166 metastatic lesions of the humerus and femur in 147 patients was performed.** There were 106 women and 41 men whose average age was 62 years. Two-thirds of the patients were treated for complete fractures, while one-third were treated for impending fractures. Breast, lung, and kidney carcinoma accounted for the majority of the primary lesions. One-half of the patients died within nine

months of surgery, while one-quarter were alive 19.1 months after surgery. The patients with breast cancer had the best prognosis, while the patients with lung cancer had the worst. The probability of implant failure increased linearly with time to 33% at 60 months. The probability of failure for the femoral lesions was greater, with 44% at 60 months. The average survival in the patients with failed fixation in the femoral lesions was 34.5 months with a mean interval to failure at 17.7 months. The failure rate was high (23%) in proximal femoral lesions treated with a compression screw or nail plate. Common reasons for failure included poor initial fixation, improper implant selection, and progression of disease within the operative field. Bone cement augmentation should be used with the fixation device when possible. Complications due to hip-screw cut-out from the head may also be reduced by applying bone cement around the screw threads.
Record Date Created: 19900222

5/7/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06139558 89222484 PMID: 2711189
[Morphology of bone threads following implantation of 2 mm AO miniscrews in the midfacial area]
Morphologie des Knochengewindes nach Implantation von 2 mm-AO-Minischrauben im Mittelgesicht.
Bahr W
Der Unfallchirurg (GERMANY, WEST) Feb 1989, 92 (2) p54-8, ISSN 0177-5537 Journal Code: 8502736
Document type: Journal Article ; English Abstract
Languages: GERMAN
Main Citation Owner: NLM
Record type: Completed
**How well an osteosynthesis screw holds depends on the amount of friction between the thread flank of the screw and the bone thread. Factors undermining the mechanical integrity of the bone thread, such as cracks, can lead to reduced friction and consequently less ability to hold. To investigate the micromorphology of the bone thread in the thin bone of the midface,** 131 bony implant beds of 2-mm AO miniscrews and 10 drill holes which had been pretapped but received no screws were studied by incident light and scanning electron microscopy. The angle of insertion of the screws was varied to assess the effect this has on the implant bed surface. In 30 of the 131 implant beds the insertion axis of the screws corresponded to the axis of the threaded or unthreaded drill holes. Sixty-six of the screws had been inserted at an inclination of greater than or equal to 10 degrees to the axis of the pretapped hole. Twenty pretapped implant beds had an inclination between 0 degrees and 10 degrees to the drill hole. Finally, 15 bone threads formed by inclining the screws upon insertion into untapped drill holes were also studied. Both pretapped and untapped implant bed surfaces were damaged with cracks, as well as signs of squashing, crushing and shearing stress. The extent of the damage often varied in the different implant beds as well as at different locations in the same implant bed. The pretapped implant beds seemed to have a relatively smoother surface when the drill or threader and the screws had the same axis.(ABSTRACT TRUNCATED AT 250 WORDS)
Record Date Created: 19890605

5/7/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05733395 88129019 PMID: 3433909
[Interfragmental compression of the Zespol osteosynthesis system. Experimental biomechanical studies]
Die interfragmentare Kompression des ZESPOL-Osteosynthese-Systems. Experimentelle biomechanische Untersuchung.
Hopf T; Osthege S
Orthopadische Universitatsklinik Homburg/Saar.
Zeitschrift fur Orthopadie und ihre Grenzgebiete (GERMANY, WEST) Sep-Oct 1987, 125 (5) p546-52, ISSN 0044-3220 Journal Code: 1256465
Document type: Journal Article ; English Abstract
Languages: GERMAN
Main Citation Owner: NLM
Record type: Completed
**Apart from the advantages of plate osteosynthesis, like primary bone healing and immediate post-operative mobilisation treatment, the disadvantages of this method must be mentioned. First of all these are the high pressure on the surface of the bone by the plate and the high tension stress on the bone by the thread of the screws, which can lead to bone atrophy.** Besides the splinting by the plate is accompanied by a functional lack of the bone. The bone reacts on this "stress protection" by reduction of material, especially under the plate. These disadvantages shall be avoided by a new osteosynthesis system, called ZESPOL, which has been developed in Poland. Here the plate does not contact directly the bone, but is fixed above the periost by special screw bolts. Although this method is used in Poland clinically with success, until now no experimental examinations concerning the stability of this osteosynthesis have been published. In the following biomechanical tests we examined, whether the new method achieves a comparable interfragmental compression like common selfcompressing plate systems. We measured the maximal interfragmental compression with an interposed piezo-electric element on human cadaver tibiae. Because the original ZESPOL plates have greater dimensions than common plates, we did not use these original plates. In order to get a comparability between the two systems, we modified small Autocompression plates (ACP) by milling a slot in the underside, so that they could be used with the original ZESPOL screw bolts. These modified ZESPOL plates we compared with common 6-hole Autocompression plates and cortical screws.(ABSTRACT TRUNCATED AT 250 WORDS)
Record Date Created: 19880318

5/7/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
02027827 75108272 PMID: 1115605
Primary internal fixation of femoral neck fractures.
Pankovich A M
Archives of surgery (Chicago, Ill. : 1960) (UNITED STATES) Jan 1975, 110 (1) p20-6, ISSN 0004-0010 Journal Code: 9716528
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
The principles in treatment of femoral neck fractures by primary internal fixation have been reviewed. In the rare, undisplaced stress or fatigue fracture, early internal fixation with threaded pins is recommended. Impacted fractures should be treated by primary internal fixation in patients who do not follow orders and patients whose general condition is poor and would require early weight bearing. Displaced fractures may be treated by primary internal fixation at any age and regardless of the patient's general condition. **The following principles are emphasized: early**

**operation, anatomical reduction and slight valgus in some cases, compression and impaction of fragments, and firm immobilization of fragments with a device that has a sliding mechanism and provides lateral cortical fixation.**
Record Date Created: 19750504

5/7/10 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

06190032 EMBASE No: 1995227036
The use of metal clips in Maxillo-Facial surgery
UTILIZZO DI CAMBRE METALLICHE IN CHIRURGIA MAXILLO-FACCIALE
Baraglia M.
Div. Chirurgia Maxillo-Facciale, Ospedale S Camille di Roma - USL 10,Roma Italy
Rivista Italiana di Chirurgia Plastica ( RIV. ITAL. CHIR. PLAST. ) (Italy) 1995, 27/2 (237-239)
CODEN: RIPLD ISSN: 0391-2221
DOCUMENT TYPE: Journal; Article
LANGUAGE: ITALIAN SUMMARY LANGUAGE: ENGLISH; ITALIAN
**The author presents the use of a fixation apparatus consisting of clips specially designed for maxillo-facial injuries.** Unlike the clips used in Orthopaedics, those used in Maxillo-Facial surgery are rather flexible thus making their positioning easy; their appendages are converging, rather than parallel, to better retain. They are indicated in fractures of the supramaxilla, especially in fronto-zygomatic disconnection, in fractures of the orbital floor, in compound fractures of the maxillary sinus walls together with microplates. **The author has been using clips with four appendages in the treatment of extracapsular fractures of the collum of the condyloid process and results are encouraging. Advantages include: - excellent stabilization of the fracture components - easy technique and subsequent reduced operation time - reduced cost.** Maxillo-facial surgeons could include this device among those already possessed (metal thread, plates, screws ).

File 155:MEDLINE(R) 1966-2002/Jul W2
File 144:Pascal 1973-2002/Jul W3
File 5:Biosis Previews(R) 1969-2002/Jul W2
File 6:NTIS 1964-2002/Aug W1
File 8:Ei Compendex(R) 1970-2002/Jul W2
File 99:Wilson Appl. Sci & Tech Abs 1983-2002/Jun
File 238:Abs. in New Tech & Eng. 1981-2002/Jul
File 65:Inside Conferences 1993-2002/Jul W3
File 77:Conference Papers Index 1973-2002/Jul
File 73:EMBASE 1974-2002/Jul W2
File 34:SciSearch(R) Cited Ref Sci 1990-2002/Jul W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 94:JICST-EPlus 1985-2002/Jun W1
File 35:Dissertation Abs Online 1861-2002/Jun

| Set | Items | Description |
|---|---|---|
| S1 | 9339 | BONE()PLATE? ? |
| S2 | 3590 | (FASTENER? OR SCREW? ? OR LOCKING()NUT? ? OR FIXATOR? ? OR NAIL? ? OR PIN OR PINS) (2N)THREAD?? |
| S3 | 43271 | (FRACTURE OR SKELETAL)()FIXATION? |
| S4 | 10 | S1 AND S2 AND S3 |
| **S5** | **10** | **RD (unique items)** |

7/7/3 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

01690311 Supplier Number: 42709919 (THIS IS THE FULLTEXT)
SAFETY, STANDARDS AND LEGISLATION - UK STANDARDS ON IMPLANTS FOR OSTEOSYNTHESIS
Biomedical Materials, pN/A
Feb, 1992
TEXT:
The British Standards Institution (BSI) has published new parts for 'British Standard 3531: Implants for osteosynthesis'.

Part 11: 1991, Specification for staples with parallel legs', covers materials, size designation, properties, tolerances on dimensions, finish, packaging and marking of staples for orthopaedic use. It supersedes 'BS 3531: Part 11: 1990'.

'Part 23, Bone plates , Section 23.3: 1991, Specifications for holes corresponding to screws with asymmetrical thread and spherical undersurfaces' specifies the dimensions and tolerances of holes in bone plates used as surgical implants to facilitate correct fixing, using screws complying with 'BS 3531: Section 5.3'.

The BSI has also published a new part for 'BS 5194, Surgical instruments. Part 1: 1991, Specification for stainless steel'. This specifies the chemical composition of grades suitable for the manufacture of surgical, dental and specific instruments for orthopaedic surgery and recommends the choice of grade for particular applications. It supersedes 'BS 5194: Part 1: 1985'.

Copies of the standards are available for GBP22.50 each (GBP11.25 to BSI members).

Also published recently is 'BS 2574: Lower limb orthoses, Part 1: 1991, Guide to the design and manufacture of lower limb orthoses, excluding foot orthoses'. It recommends the principles and design criteria to be considered when designing, manufacturing, marking and packaging lower limb orthoses. It supersedes 'BS 2574: Part 1: 1977', which was withdrawn in 1984.
Copies of this standard are available for GBP38.00 (GBP19.00 to BSI members).

For further details, contact: British Standards Institution, Linford Wood, Milton Keynes MK14 6LE, UK; tel: +44-908-220022; fax: +44-908-320856.


Subscription: $219 per year as of 1/92. Published monthly. Contact Elsevier Advanced Technology Publications, Crown House, Linton Road, Barking, Essex, IG11 8JU, U.K. Phone 01-594-7272.


13/8/1 (Item 1 from file: 16)
DIALOG(R)File 16:
06542032 Supplier Number: 55363117 (USE FORMAT 7 FOR FULLTEXT)
Fusion cages adding backbone to spinal fixation device sales.
July, 1999
Word Count: 1990
PUBLISHER NAME: Business Word, Inc.
COMPANY NAMES: *Spine-Tech Inc.; Johnson and Johnson; Medtronic Inc.; Surgical Dynamics Inc.; DePuy Inc.; Spinal Concepts, Inc.
EVENT NAMES: *600 (Market information - general)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3842119 (Orthopedic Supplies NEC)

INDUSTRY NAMES: BUSN (Any type of business); HLTH (Healthcare - Medical and Health)
NAICS CODES: 339113 (Surgical Appliance and Supplies Manufacturing)
SPECIAL FEATURES: COMPANY

13/3,AB,K/2 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

06172066 SUPPLIER NUMBER: 12930794 (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Diagnostic and therapeutic technology assessment (DATTA). (bone fixation techniques) (Questions and Answers)**
JAMA, The Journal of the American Medical Association, v268, n19, p2717(8)
Nov 18, 1992
ISSN: 0098-7484 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 7064 LINE COUNT: 00600
ABSTRACT: The Ilizarov technique may be an effective and safe method for correcting bone deformities or for limb-lengthening procedures. This technique was invented by the Russian orthopedic surgeon Gavril Ilizarov in the 1950s and has been used with increasing popularity in the US since 1984. It involves four stages of treatment. The first stage consists of surgery to cut the bone and the three other stages involve a piece of orthopedic equipment called the Ilizarov device. The Ilizarov device uses thin wires, under tension, to hold the bone externally in place. The device can be adapted to over 600 configurations to provide a custom fit for each patient. The principle behind the device is that continual tension and stress stimulates physiological pathways involved in the formation of new bone. Complications that can occur using the Ilizarov techniques are easily treatable and can often be avoided by careful planning.
... The Wagner technique consists of a middiaphyseal osteotomy followed by placement of a unilateral external fixator anchored by percutaneous screws in the proximal and distal metaphyses. Lengthening begins immediately after placement of the fixator device. The patient performs the twice daily distraction by turning a screw that lengthens the...
...has been achieved. The fragments are then usually, but not always, united with an osteosynthesis plate .(3) Additional bone grafting is typically necessary; biopsy of the fracture gap at the time...
...only fibrous tissue with little osteogenesis.(4) A third operation is required to remove the plate .

Working in isolation in western Siberia during the 1950s, Gavriil Ilizarov, a Russian physician, developed...
...is composed of four stages: a specialized percutaneous osteotomy and application of the namesake external fixator device, a period of delay, then distraction followed by a period of consolidation before removal of the apparatus.(5)

In contrast to Wagner'ss method, which uses threaded pins to externally fix the bone, Ilizarov uses pairs of Kirschnet ...of Wagner.) The underlying premise is that tensioned wires can achieve the same rigidity as pins .(6) The rings are then attached to one another by threaded rods. A variety of pins , hinges, and telescopic rods can be adapted to the apparatus (Fig 2). The Ilizarov device is designed to be flexible in its application. With its modular components of circular plates , bolts, and telescopic rods, the device can be assembled in over 600 configurations, allowing for...
...of multiple deformities.(7)

Unlike the Wagner procedure, after placement of the osteotomy and external fixatory device, a period of delay between 7 and 14 days is

recommended before the initiation...a growth rate that is about four times faster than the human's fastest growth plate .(15) An auto distractor is available that provides continuous distraction at a cumulative rate of...
...recommended by Ilizarov.

Mechanical properties of the Ilizarov device, particularly in comparison with other external fixators for limb lengthening, have been another area of research interest. The stability provided by fixation...
...level of instability is "beneficial."

In a mechanical model Paley et al(21) studied the fixator stiffness and fracture gap stability of three unilateral fixation devices and the circular Ilizarov device. The basic difference between unilateral external fixators and the circular Ilizarov device is that the pins used in unilateral fixators act as cantilevers, minimizing motion at the fracture site. In the Ilizarov technique, the tensioned...
...different configuration to accommodate the large soft-tissue mass of the upper leg. One-half pins are used on the lateral side, so the resulting configuration is a combination of pins and transfixion wires. This configuration increased the shear rigidity while simultaneously preserving the beneficial axial...
...osteotomy at the level of the midtibia followed by the application of an external ring fixator and tensioned wires in three configurations of increasing stability. The most unstable frame fixed with...levels proximal to the apex of the deformity. The Kirschner wires and the ring external fixators should be perpendicular to the affixed bone segment. Special hinges should be placed at the...
...should be considered true complications. Conflicting interpretations of "complications" can make comparison of studies difficult.

Pin -site problems are the most frequent occurrence and are related to the motion at the pin -skin or pin -bone interface, the diameter of the pin , and the amount of the soft tissue transversed. Cotton gauze and rubber stoppers or foam sponges applied to the pin -skin interface along with topical antibiotics have been recommended- Oral antibiotics are used if there...
...any suspicion of soft-tissue infection-(31)

Soft-tissue complications can arise related to the fixator device itself, or related to the indirect distraction of the soft tissues. In fact, White...
...due to the distraction or due to transfixation of the muscles or tendons by the pins . Physiotherapy focusing on passive stretching exercises is the primary preventive measure, and, in fact, physiotherapy...
...incorporate the knee or the hip.(27)

Nerve or vascular injury can result from improper pin placement, damage during the osteotomy, or the distraction itself. Distraction-related nerve injury, although rare...Thus, many variations currently exist that use combinations of circular and unilateral frames and substitute pins for wires in certain situations.(23) Consequently, comparisons among studies of the Ilizarov technique and...
...years. There was a total of 35 complications that resolved without surgical intervention, including 20 pin tract infections in 13 patients and 10 axial deviations. There were 11 complications that required surgical intervention, including two pin tract infections, two axial deviations, and two incomplete osteotomies. There was a total of 28...
...fair result, and one patient had a poor result.

Reported complications in this study included pin fracture (two patients) and pin removal secondary to infection (five patients). Twenty-one pins were added ...was 2.0 mo/cm for single-level tibial

lengthening.

The following complications were reported: pin tract infection (all patients), cellulitis (three patients), bone infection (one patient), wire fractures (two patients...

...five stated that the prolonged learning curve was a disadvantage, and four commented that unilateral fixators were more appropriate in the femur.

Summary

Although the Ilizarov device (and technique) to treat...Harmson B, Boyd CM, Cannon DJ, Lubansky HJ. Mechanical induction of osteogenesis: the importance of pin rigidity. J Pediatr Ofthap. 1988;8:396401.

7. The llizarov External Fixator : General Surgical Technique Brochure. Memphis, Tenn: Smith Nephew Richards Inc; 1990.

8. Paley D. Current...

...21. Paley D, Fleming B, Catagra M, Khstiansen T, Pope M. Mechanical evaluation of external fixators used in limb lengthening. Clin Ofthop Rel Res. 1990;250:59-57.

22. Krummer FJ. Biornechanics of the Ilizarov external fixator . Bull Hosp Joint Dis Ofthop Inst. 1989;49:140-147.

23. Paley D, Catagm MA...

DESCRIPTORS: Fracture fixation --

13/3,AB/6 (Item 1 from file: 442)
DIALOG(R)File 442:AMA Journals
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00046232
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**Augmented Fixation of Mandibular Fractures With a Threaded Kirschner Wire (ORIGINAL ARTICLES)**

CONIGLIO, JOHN U.
Archives of Otolaryngology
June, 1989; 115: 699-7041989;
LINE COUNT: 00238 WORD COUNT: 03292

**ABSTRACT: The maxillofacial surgeon uses a variety of techniques when treating mandibular fractures. The aim of treatment is to restore structure and function while minimizing morbidity. This requires adequate anatomic reduction and immobilization. The surgeon's choice of techniques should be safe, simple, economic, and effective. In this article, we discuss a previously described, yet little known, technique that fulfilled these criteria.** The technique of augmented fixation of mandibular fractures using a threaded basal Kirschner wire was successfully used in seven patients. It offered the distinct advantage of rigid basal fixation that augmented interosseous and maxillomandibular fixation techniques. It was especially effective in stabilizing and promoting bone healing in unfavorable comminuted parasymphyseal fractures. Its ease and rapidity of application from readily available materials made it an effective alternate to elaborate techniques such as compression-plating systems.
Augmented Fixation of Mandibular Fractures With a Threaded Kirschner Wire

13/3,AB/7 (Item 2 from file: 442)
DIALOG(R)File 442:AMA Journals
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00036039
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**Open Treatment of Condylar Fractures With Biphase Technique (PAPERS READ BEFORE THE AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY)**

FERNANDEZ, JAMES A.
Archives of Otolaryngology
March, 1987 ; 113: 262-2661987;
LINE COUNT: 00211 WORD COUNT: 02923
ABSTRACT: Most fractures of the condyle of the mandible are managed by closed reduction techniques. Commonly used methods include intermaxillary fixation with a natural dentition or with dentures or splints. Fixation for a variable period of time provides for union of the fragments. In patients in whom the condyle is badly displaced and/or the adjoining mandibular segment is unstable, open techniques are often applied. **This article discusses the indications for surgery and presents a method of reducing and maintaining fixation with an external device.** Although the approach requires a major surgical procedure and can potentially cause injury to the facial nerve, there is a decided advantage in the direct visualization of the reduction and immobilization of the fracture. **Several cases are presented to demonstrate the method and result.**

13/3,AB/8 (Item 3 from file: 442)
DIALOG(R)File 442:AMA Journals

00035885

**Treatment of Fractures of the Edentulous Mandible (PAPERS READ BEFORE THE AMERICAN ACADEMY OF FACIAL PLASTIC AND RECONSTRUCTIVE SURGERY)**
LEVINE, PAUL A.
Archives of Otolaryngology
March, 1982; 108: 167-1731982;
LINE COUNT: 00263 WORD COUNT: 03633
ABSTRACT: The reduction and fixation techniques for **treatment of fractures of the edentulous mandible** are varied, although all the operative techniques are based on the fundamental principles of adequate bone fragment apposition and immobilization. The techniques include the following: (1) analgesia and soft diet, (2) closed reduction with splint fixation, (3) open reduction (intraoral or extraoral) with transosseous wire ligation, (4) percutaneous intramedullary pinning, (5) intraoral open reduction with bone graft and maxillomandibular fixation, (6) external splint fixation appliance, (7) extraoral open reduction and fixation with malleable mesh, and (8) extraoral open reduction and fixation with bone plating (metacarpal, lateral compression, and eccentric dynamic compression plate (EDCP)). **We review the various modalities of therapy for this challenging problem, with the strengths and weaknesses of each technique. In addition, we discuss a relatively new method of fracture fixation in North America, the EDCP, and our experience using it to treat 17 fractures of the edentulous or nearly edentulous mandible, with a 94% bony healing rate.**

18/7/4 (Item 1 from file: 442)
DIALOG(R)File 442:AMA Journals

00049709 * * USE FORMAT 9 FOR FULL TEXT OF ARTICLE * *
**Treatment of 813 Zygoma-Lateral Orbital Complex Fractures: New Aspects**
Zingg, Markus, MD, DMD; Chowdhury, Khalid, MD, FRCSC; Ladrach, Kurt, MD, DMD; Vuillemin, Thierry, MD, DMD; Sutter, Franz, DMD; Raveh, Joram, MD, DMD
Archives of Otolaryngology-Head & Neck Surgery
1991; 117: 611 (10)
0003-9977

**A 10-year experience with surgical treatment of 813 zygomalateral orbital complex fractures is reviewed.** Regardless of the type or severity of the fracture pattern, concomitant fractures of the orbital o floor and rim were approached exclusively through the transconjunctival approach without a lateral canthotomy. The advantages of this approach compared with the subciliary access are the avoidance of a visible scar and markedly reduced incidence of postoperative lower eyelid complications such as ectropion and edema. Implants of lyophilized dura or cartilage and autogenous bone were used to reconstruct orbital floor defects. Malar asymmetry is a frequent complication of zygoma fractures resulting from inadequate three-dimensional reduction. Methods for accurate reduction and stabilization, indications for closed and open reduction, and management of the fractured infraorbital rim are emphasized. The indications for miniplates vs wire ligatures for the infraorbital rim are discussed. Long-term follow up and evaluation of the results with regard to the fracture pattern, complications, maxillary sinus dysfunction, and facial and orbital symmetry are presented.

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File  98:General Sci Abs/Full-Text 1984-2002/Jun
File   9:Business & Industry(R) Jul/1994-2002/Jul 22
File  16:Gale Group PROMT(R) 1990-2002/Jul 23
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2002/Jul 23
File 621:Gale Group New Prod.Annou.(R) 1985-2002/Jul 23
File 636:Gale Group Newsletter DB(TM) 1987-2002/Jul 23
File 441:ESPICOM Pharm&Med DEVICE NEWS 2002/Jun W4
File  95:TEME-Technology & Management 1989-2002/Jul W3
File  20:Dialog Global Reporter 1997-2002/Jul 23
File 813:PR Newswire 1987-1999/Apr 30
File 810:Business Wire 1986-1999/Feb 28
File 610:Business Wire 1999-2002/Jul 23
File 613:PR Newswire 1999-2002/Jul 23
File  15:ABI/Inform(R) 1971-2002/Jul 23
File  88:Gale Group Business A.R.T.S. 1976-2002/Jul 23
File 442:AMA  Journals 1982-2002/Jun B2
File 444:New England Journal of Med. 1985-2002/Jul W3
Set     Items   Description
S1        321   BONE()PLATE? ?
S2       3880   (FASTENER? OR SCREW? ? OR LOCKING()NUT? ? OR FIXATOR? ? OR
            NAIL? ? OR PIN OR PINS) (2N)THREAD??
S3        454   (FRACTURE OR SKELETAL)()FIXATION?
S4          0   S1 AND S2 AND S3
S5          0   RD (unique items)
S6     126265   FRACTURE? ?
S7          3   S1(S)S2
S8          0   S6 AND S7
S9     452929   FASTENER? OR SCREW? ? ORLOCKING()NUT? ? OR FIXATOR? ? OR N-
            AIL? ? OR PIN OR PINS
S10    136597   THREAD??
S11    373120   PLATE OR PLATES
S12        11   S3 AND S9 AND S10 AND S11
S13         8   RD (unique items)
S14       143   S9(S)S10(S)S11
S15    126265   FRACTURE? ?
S16         7   S14(S)S15
S17         4   S16 NOT S12
S18         4   RD (unique items)
```

8/7/1 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

1057673 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.
COMPUTER AIDED DEVELOPMENT OF A MODULAR CEMENTLESS HIP AND FEMORAL PROSTHESIS
Author: LUTTON, PHILLIP PETER
Degree: PH.D.
Year: 1988
Corporate Source/Institution: UNIVERSITY OF NEW SOUTH WALES (AUSTRALIA) (0423)
Source: VOLUME 50/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 261.

Joint failure resulting from loosening has been one of the major problem areas in both conventional hemi arthroplasty and total hip replacements. There are no satisfactory designs offering the security of both strong immediate fixation and longer term stability. A cementless modular ceramic and titanium hip and upper femoral replacement is reported. **The new design is called the H-Hip (Huckstep Hip). Consideration is given to its design and development, theoretical, mechanical and physiological evaluation and clinical follow up.** To facilitate analysis of the design, a comprehensive finite element analysis program, incorporating high resolution colour graphics for both pre and post processor analysis, was written.

The prosthesis stem was manufactured from titanium alloy (6% Al, 4% V) and has a flame sprayed high purity alumina coating with 200-300 $\mu$m pores to encourage bone ingrowth. Fine threaded titanium alloy screws transfix both cortices of the bone and pass directly through the stem. Bone ingrowth into the porous coating provides for long term fixation whilst the bone screws offer immediate stability and enable post-operative weight bearing. The head of the prosthesis is interchangeable on a non rotating friction taper. They are manufactured from high purity alumina ceramic, either as a hemi arthroplasty or as a total hip with different lengths of neck. The acetabular component consists of a high density polyethylene cup with a titanium alloy backing, flame sprayed with porous ceramic to promote bone ingrowth and held firmly in position by titanium alloy screws. A ceramic sleeve with add on ceramic spacers of 30 mm diameter and 10 mm depth, coated with porous alumina, pass over the stem and allow up to two-thirds of the upper femur to be replaced if necessary. When required, an abductor attachment is available. A specially designed titanium bone plate with matching screw holes can be used to extend the hip or to offer added support.

In the first seventy nine clinical trials, the design has been used for failed total hip replacements, fractures below hip prostheses, replacement of destroyed upper femora and for tumours of the upper half of the femur. It has also been used for hip replacement in young patients and in osteonecrosis of the femoral head in renal failure or after corticosteroid administration. Development work is continuing.

20/6,K/12 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
07251101 Genuine Article#: 139YA Number of References: 21
Title: DHS screw plates for trochanteric fractures. Impaction analysis according to fracture type (ABSTRACT AVAILABLE)

Publication date: 19981000
Abstract: Introduction

**The sliding plate has appeared to be a reliable answer for trochanteric fractures. However, impaction allowed by the...**

...a 4,2 sex ratio (16 males). One hundred and thirty five degrees free sliding plates were employed for fracture fixation . Full weight bearing was allowed in 78,6 per cent of patients. According to Ender...

...8. The results were assessed on AP and lateral X-rays. The ratio between screw thread length (constant) and screw outside the barrel length, was used to measure impaction on AP...

...Results

Despite two screw protrusions out of the femoral head and two failures of the plate , we have observed a healing rate of 100 per cent after three months. Sliding averaged...

...Osteoporosis does not seem to be the major factor regarding screw sliding.

Conclusion

The sliding plate is reliable. However, complex fractures healed in a wrong position which is definitely not acceptable, especially for young patients. Therefore, we advise to avoid the use of sliding plate in case of Ender type 6, 7 and 8...

20/6,K/13 (Item 2 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
05110700 Genuine Article#: VA930 Number of References: 30
Title: IN-VITRO FEMORAL STIFFNESS AFTER FEMORAL-NECK OSTEOTOMY AND OSTEOSYNTHESIS WITH DEFINED SURGICAL ERRORS (Abstract Available)
...Abstract: LiH, PSAB, Sweden). The first device has its main grip in the cancellous bone by threads ; the second has grip in cancellous and subchondral bone by threads ; and the third, which has no threads , has its grip in cancellous bone by a hook pin . The intact specimen was in all instances stiffer (22-63%) than the osteosynthesized specimen (p...

...respectively, and for the LiH screws 47% and 63%, respectively. Use of a device with threads and grip in the subchondral bone is recommended for fixation of femoral neck fractures in osteoporotic bone. Furthermore, the importance of anatomical reduction for fracture fixation is emphasized...

20/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
08410196 95173739 PMID: 7869162

Box plate fixation of the symphysis pubis: biomechanical evaluation of a new technique.

Simonian P T; Routt M L; Harrington R M; Tencer A F

Department of Orthopaedic Surgery, Harborview Medical Center, University of Washington, Seattle.

Journal of orthopaedic trauma (UNITED STATES) Dec 1994, 8 (6) p483-9 , ISSN 0890-5339 Journal Code: 8807705

Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

**The purpose of this study was to compare common techniques of pubic symphyseal fixation with a new method, the "box plate ," for fractures of the pelvis where the bone is osteopenic.** This symphyseal fixation construct consists of two, two-hole, 4.5-mm narrow dynamic compression plates (DCP)

oriented parallel to one another. One plate is recessed within the symphysis, and the other is located on the pubic tubercles. The plates are interlocked using two 6.5-mm fully threaded screws, forming a box-like construct. To determine the mechanical properties of this construct, five fresh, cadaveric pelvic specimens with a mean age of 75 years were harvested. The femora of each specimen were potted into containers and fixed to the base of a materials testing machine. The pelvis was constrained from rotating about the hip joints by anterior and posterior restraints. A vertical compressive load was applied through the lumbar spine. Force to a magnitude of 1,000 N was applied through three cycles. Gapping motions at the symphysis pubis (SP) and the sacroiliac (SI) joints, and flexion-extension of the sacrum with respect to the ilia were measured under the following conditions: (a) intact, (b) SP ligament, unilateral anterior SI ligaments, and ipsilateral sacrospinous and sacrotuberous ligaments disrupted (anteroposterior compression type II injury), and these injuries fixed using (c) a 4.5-mm narrow two-hole DC plate placed on the superior SP held by two cancellous bone screws, (d) the DC plate well as a single 7.0-mm cannulated cancellouoffliosacral lag screw across the injured SI joint, (e) the DC plate and a five-hole 3.5-mm reconstruction plate on the anterior SP, (f) a 3.5-mm, four-hole, DC plate on the superior SP using four fully threaded screws, and (g) the box plate symphyseal construct described above. All fixations reduced SP joint gapping compared to the disrupted joint. However, all but the box plate still allowed significantly greater motion than the intact SP joint. No fixation significantly reduced SI joint gapping or sacral flexion compared to the injured state.
Record Date Created: 19950324

20/7/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
07411354 92350724 PMID: 1822593
[New principles of using biodegradable implants in the treatment of fractures]
Neue Prinzipien zur Verwendung von biodegredablen Implantaten in der Knochenbruchbehandlung.
Becker D
Unfallchirurgischen Klinik, Akademisches Lehrkrankenhaus Bad Hersfeld.
Polimery w medycynie (POLAND) 1991, 21 (3-4) p25-35, ISSN 0370-0747 Journal Code: 7509477
Document type: Journal Article; Review; Review Literature ; English Abstract
Languages: GERMAN
Main Citation Owner: NLM
Record type: Completed
**So far the operative treatment of bone fractures has resolved itself to immobilisation and bone fragment joining with the help of metal implants such as nails , screws, plates and wires. Once the bone had healed, they had to be removed. This action bears some risk, e.g. extremity disfunction, wound infection. This requires re-hospitalization and increases social cost of the treatment. These reasons gave rise to research on new, biodegradable materials.** One of them is "Biofix" manufactures as threads or nails, employed when immobilising bone fragments. Application of "Biofix" allows early rehabilitation. In 200 cases we utilized "Biofix" reinforced with a wire loop, which brought about positive results. In isolated cases there occurred inflammation of the tissues that surrounded the implant during its biodegradation. The surrounded tissues exhibited an acid reaction of pH 3-4.

The biodegradable material "Biofix" is sensitive to torsion, which hinders making screws of it, hence the method of using it for nails, wire and thread. This issue is dealt with the Kampere Technical University. (15 Refs.)
Record Date Created: 19920901

20/7/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
05275669 87028912 PMID: 3769288
**Intramedullary forearm nailing.**
Street D M
Clinical orthopaedics and related research (UNITED STATES) Nov 1986, (212) p219-30, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
**Nailing of the forearm, beginning with Schone, antedated nailing of the femur and tibia.** Its slower development appears due to anatomic problems with the radius, the interdependence of the two bones, and the strong torque loads from the pronators and supinators. Kirschner wires, threaded Steinman pins , Kuntscher U nails , and Rush pins were investigated extensively on fracture services before 1954 when a square-shaped nail to improve stability and fracture healing was designed. A broaching point, allowing some bite of the corners into the circumference of a reamed canal, provided better control of torque loads. Closed nailing has many advantages, including early union, low incidence of infection, small scars, less blood loss, and, frequently, relatively short operating time with minimal surgical trauma. Complications and pitfalls during surgery relate mainly to improper nail size and reaming technique. Open fractures led to the highest number of infections, and in highly comminuted fractures nonunion was occasionally seen. In a series of 137 nailed fractures, the nonunion rate was 7%. While the compression plates may give a slightly lower nonunion rate than nailing, the incidence was more than offset by the greater incidence of refractures and disfiguring scars.
Record Date Created: 19861203

20/7/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
03453370 81002560 PMID: 7408300
Fractures of the hip in children: a review of forty cases.
Heiser J M; Oppenheim W L
Clinical orthopaedics and related research (UNITED STATES) Jun 1980, (149) p177-84, ISSN 0009-921X Journal Code: 0075674
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
In a series of children's hip fracture seen over a 27-year-period, there were 39 patients (40 fractures) with a mean age of 8.9 years followed for an average 7 years. After an initial period of traction, 50% of the fractures were treated in a spica cast, 40% by internal fixation, and 10% by bed rest. Overall, there were 65% good results, 25% fair and 10% poor. All nondisplaced fractures were found to have a good result, while only one-half of displaced fractures were considered a good result. The complications were premature epiphyseal closure 23%, avascular necrosis 17%, coxa vara 12.5%, and nonunion 7.5%. Intertrochanteric fractures should be treated in traction followed by a spica

cast. All other displaced fractures should be reduced and internally fixed. The hip joint capsule is opened in those transepiphyseal and transcervical fractures for which closed reduction has been unsuccessful. Spica casts are used to protect the fixation until roentgenograms show healing. Nondisplaced fractures may be treated non-operatively but must be watched closely for varus angulation. **Threaded pins or lag screws are the devices of choice except in transepiphyseal fractures where smooth pins can be used to cross the physis. Nail - plates should be avoided.**
Record Date Created: 19801124

20/7/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
00450334 68121840 PMID: 6079706
Absolute fixation of hip fractures. Accurate reduction-total impaction applied over lateral plate and peripheral threaded pins .
Deyerle W M
American journal of orthopedics (UNITED STATES) Nov 1967, 9 (11) p232-7 passim, ISSN 0065-9002 Journal Code: 0134543
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Record Date Created: 19680324

20/7/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
00438794 68083634 PMID: 6063958
Absolute fixation of hip fractures. Accurate reduction-total impaction applied over lateral plate and peripheral threaded pins .
Deyede W M
American journal of orthopedics (UNITED STATES) Oct 1967, 9 (10) p206-15, ISSN 0065-9002 Journal Code: 0134543
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Record Date Created: 19680203

20/7/11 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10718788 EMBASE No: 2000207007
**Percutaneous fixation of proximal humeral fractures**
Herscovici D. Jr.; Saunders D.T.; Johnson M.P.; Sanders R.; DiPasquale T.
D. Herscovici Jr., 4175 East Fowler Avenue, Tampa, FL 33617 United States
Clinical Orthopaedics and Related Research ( CLIN. ORTHOP. RELAT. RES. ) (United States) 2000, -/375 (97-104)
CODEN: CORTB ISSN: 0009-921X
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 33
**The purpose of the current study is to evaluate the technique of closed reduction and percutaneous pinning of proximal humeral fractures and to determine whether this technique provides enough stability to permit early active range of motion and subsequent fracture healing.** Fractures were classified according to Neer et al and were included if the surgical or

anatomic neck were angulated greater than 45degree, separation between fragments was greater than 1 cm, or the greater tuberosity was displaced more than 0.5 cm. There were 21 Type II, 16 Type III, and four Type IV fractures. Fractures were pinned using distally threaded Dynamic Hip Screw(R) guide pins , 2-mm Kirschher wires, or 2.5-mm distally threaded Schantz(R) pins . Patients were evaluated for union rates and motion. Assessment was made using the Modified American Shoulder and Elbow Surgeons Form. Thirty-six patients with 37 fractures were available for review with followup averaging 40 months (range, 12-68 months). All patients with Neer Type IV fractures did not respond to fixation and three had avascular necrosis develop, irrespective of the type of pin used. In the remaining 33 patients with Neer Type II and Type III fractures, a union rate of 94% was observed at an average of 2.6 months. All patients had good functional results. In the current series, there were no failures using Schantz(R) pins . There was a 20% failure rate with Dynamic Hip Screw (R) pins (2% if the patients with Type IV fractures were excluded) and a 100% failure rate with Kirschner wires. Stable fixation with early motion and subsequently good results can be obtained using percutaneous fixation in patients with Type II and Type III fractures; however, terminally threaded pins must be used and smooth Kirschner wires must be avoided. Percutaneous fixation cannot be recommended in patients with Type IV fractures.

20/7/16 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01372752 JICST ACCESSION NUMBER: 91A0684602 FILE SEGMENT: JICST-E
Intramedullary nailing with touch-screws for the fracture of the radius & ulna; preliminary report.
YAMAMOTO MAKOTO (1); ONO TSUKASA (1); ITOMAN MORIHIRO (1); SASAMOTO NORIO (2); KITAZUME SHIN (2)
(1) Kitasato Univ.; (2) Kitazatokenkyujokitamotomejikarusentabyoin
Seikei Geka(Orthopedic Surgery), 1991, VOL.42,NO.8, PAGE.1273-1276, FIG.5
JOURNAL NUMBER: Z0212AAI ISSN NO: 0030-5901
UNIVERSAL DECIMAL CLASSIFICATION: 616.71 616.7-089
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication

22/6,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:
07916272 94053994 PMID: 8235849
Static and cyclical biomechanical analysis of pedicle screw spinal constructs.
Sep 15 1993
... cycles to failure was higher for spinal instrumentation systems employing longitudinal rods than those using plates (ANOVA F = 16.94, P < .001). At 600 N, the compact Cotrel-Dubousset, TSRH, and...
... ranging from 200,000 to 800,000 cycles. The remaining devices including Dyna-lok, Kirschner plate , and VSP devices had failures ranging from 50,000 to 210,000 cycles. Polyethylene cylinders...
... of each spinal system. The failure of eleven of the twelve spinal systems occurred by fracture of a pedicle screw, most commonly at the junction of the upper screw thread and the collar (Kirschner, AO fixator , standard CD, ISOLA, and TSRH). However, in Dynalok and VSP systems, fracture of the threaded portion of the screw just posterior to the integral nuts was the most common screw fracture location. The compact CD

system was the only spinal implant that consistently failed by fracture of the longitudinal spinal member (rod). The fatigue life of rod based systems was longer than plate based systems. These studies confirm the importance of anterior column load sharing (vertebral body, corpectomy...

22/6,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:
07598900 93126848 PMID: 1480964
[Ilisarov ring fixation and its technical application]
Nov 1992
The Ilisarov ring fixator is an extremely versatile external fixation device. There is a wide range of indications for its use, e.g. fractures , pseudarthroses and non-unions, large defects, deformities and limb shortening. The device consists of rings or half-rings, which are connected to each other by threaded rods or plates and to the bone by wires under tension. This design allows neutral fixation, compression or...
... of its low axial stiffness at low loads and increased stiffness at higher loads, this fixator promotes osteogenesis and reduces strain on the tissues in functional treatment. Surgical intervention for its...

22/6,K/4 (Item 4 from file: 155)
DIALOG(R)File 155:
06411267 90101859 PMID: 2603669
[Double interlocking elastic nailing for intertrochanteric fractures and various diaphyseal indications]
1989
... medial approach was designed to control the lateral rotation, as well as sinking of the nails . Locking both nails with a threaded pin and two bolts limits the secondary depression of the fracture by the S-shaped lateral nail . The secondary depression of the fracture was less than 1 cm in 91% of our cases. No surgical revision was necessary for sinking nails. The control of the lateral rotation was excellent in 91% and the internal rotation was less than 10 degrees. Protrusion of the nails into the joint occurred in 4 of our first cases and could be eliminated by...
... the function, shortening and lateral rotation are good in 87.5% of our cases. After plate and intramedullary rupture of the screw, in repeated fractures, **this technique may be used without excising the screw fragments**. Proximal and distal shaft fractures of the femur are also indications in elderly patients when monopodal rehabilitation is impossible.

22/6,K/7 (Item 2 from file: 5)
DIALOG(R)File 5:(c) 2002 BIOSIS. All rts. reserv.
12533818 BIOSIS NO.: 200000287320
Biocompatible absorbable polymer fastener and driver for use in surgical procedures.
1999
ABSTRACT: **A biocompatible fastener that may be used for attachment of a fixation plate to bone is described herein,** where the fastener has features that facilitate its deployment in a surgical environment. The fastener is composed of a screw, having a threaded shaft and slotted head, and a detachable body that is used for deploying the screw...
...slot in the head of the screw has stress concentrating notch features that direct the fracture lines into the screw head upon detachment of the secondary body, thus ensuring that the screw head surface remains smooth after deployment. A suitable driver for applying the fastener is also described.

22/6,K/9 (Item 4 from file: 5)
DIALOG(R)File 5:(c) 2002 BIOSIS. All rts. reserv.
08769214 BIOSIS NO.: 199395058565
The Ilisarow ring fixator and its application.
1992
ABSTRACT: The Ilisarow ring fixator is an extremely versatile external fixation device. There is a wide range of indications for its use, e.g. fractures , pseudarthroses and non-unions, large defects, deformities and limb shortening. The device consists of rings or half-rings, which are connected to each other by threaded rods of plates and to the bone by wires under tension. This design allows neutral fixation, compression or ...
...of its low axial stiffness at low loads and increased stiffness at higher loads, this fixator promotes osteogenesis and reduces strain on the tissues in functional treatment. Surgical intervention for its...

22/6,K/10 (Item 5 from file: 5)
DIALOG(R)File 5:(c) 2002 BIOSIS. All rts. reserv.
07495450 BIOSIS NO.: 000091069319
INFLUENCE OF A FIXED SCREW PLATE CONNECTION AND DIFFERENT SCREW DIAMETERS ON THE STABILITY OF A FEMUR PLATE OSTEOSYNTHESIS AN FE MODEL STUDY
1990
...ABSTRACT: a finite element model of a human femur with an attached stainless steel six-hole plate exposed to a load equivalent to that set up by standing on one leg, pressures...
...the screw holes, bending stresses in the screws, and axial bone stresses in the mid- plate transverse section were determined. The calculations were performed for minor thread diameters of 3 mm, 5 mm and 8 mm. Further calculations were done assuming a fixator -like rigid screw-plate connection. As a model of a fracture a medial bone defect was chosen. The results show a definitive influence of the screw diameter and the screw- plate connection on the load distribution in the system. Increasing screw diameter makes for lower bone...
...combined with increased bending stability, a larger part of the load being carried by the plate . The rigid screw- plate connection ( plate fixator ) causes less bone stresses, but high bending stresses are set up the points of screw- plate fixation. Maximal stresses for screw and bone are found at the end of the plate , cuased by the large difference in the E-module between the steel plate and the bone. End- plate bone and screws are loaded in excess of their material limits when 3 mm core...

22/6,K/11 (Item 1 from file: 8)
DIALOG(R)File 8:(c) 2002 Engineering Info. Inc. All rts. reserv.
04559010
Title: Design of gradient - CVI derived CMC components
Publication Year: 1996
...Abstract: joining method is required. Therefore, a design concept with the utilization of newly developed CMC fasteners has been worked out for the realization of complex components for high temperature structural applications. The fasteners were made of laminated C/SiC according to a special design. Tensile tests have evidenced that they provide the properties as high tensile and shear strength necessary for reliable joints. Fracture occurred in the shafts without deformation of the thread . Integral-laminated stringer stiffened plates were joined to load bearing beams with C/SiC fasteners to form an experimental part. Testing of these joints has shown their high load bearing...

22/6,K/12 (Item 1 from file: 73)
DIALOG(R)File 73:(c) 2002 Elsevier Science B.V. All rts. reserv.
04478743 EMBASE No: 1990366852
An aid for the removal of compression hip screws
1990
The compression hip screw has a wide application in fracture management and elective orthopaedics. Due to the design of the sliding screw, bone ingrowth behind the threads can lead to difficulties in metalwork removal, especially in the younger patient. A simple technique is described using the plate to assist nail removal.

22/6,K/17 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
05241791 Genuine Article#: VK479 Number of References: 8
Title: DESIGN OF GRADIENT-CVI DERIVED CMC COMPONENTS (Abstract Available)
...Abstract: joining method is required. Therefore, a design concept with the utilization of newly developed CMC fasteners has been worked out for the realization of complex components for high temperature structural applications. The fasteners were made of laminated C/SiC according to a special design. Tensile tests have evidenced that they provide the properties as high tensile and shear strength necessary for reliable joints. Fracture occured in the shafts without deformation of the thread . integral-laminated stringer stiffened plates were joined to load bearing beams with C/SiC fasteners to form an experimental part. Testing of these joints has shown their high load bearing...

22/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
06813675 91126494 PMID: 2281325
[The effect of an angle-stable plate-screw connection and various screw diameters on the stability of plate osteosynthesis. An FE model study]
Einfluss einer winkelstabilen Platten-Schrauben-Verbindung und unterschiedlicher Schraubendicken auf die Statik der Plattenosteosynthese. Eine FEM-Studie.
Seide K; Zierold W; Wolter D; Kortmann H R
Chirurgische Abteilung, Allgemeines Krankenhaus Heidberg Hamburg.
Der Unfallchirurg (GERMANY) Dec 1990, 93 (12) p552-8, ISSN 0177-5537 Journal Code: 8502736
Document type: Journal Article ; English Abstract
Languages: GERMAN
Main Citation Owner: NLM
Record type: Completed
**In a finite element model of a human femur with an attached stainless steel six-hole plate exposed to a load equivalent to that set up by standing on one leg, pressures on the face of the screw holes, bending stresses in the screws, and axial bone stresses in the mid- plate transverse section were determined.** The calculations were performed for minor thread diameters of 3 mm, 5 mm and 8 mm. Further calculations were done assuming a fixator -like rigid screw- plate connection. As a model of a fracture a medial bone defect was chosen. The results show a definitive influence of the screw diameter and the screw- plate connection on the load distribution in the system. Increasing screw diameter makes for lower bone stresses combined with increased bending stability, a larger part of the load being carried by the plate . The rigid screw- plate

connection ( plate fixator ) causes less bone stresses, but high bending stresses are set up the points of screw- plate fixation. Maximal stresses for screw and bone are found at the end of the plate , caused by the large difference in the E-module between the steel plate and the bone. End-plate bone and screws are loaded in excess of their material limits when 3 mm core diameters are used, and sometimes when 5 mm core diameters are used, under the assumed conditions. When a medial bone defect reducing the bone cross-sectional area by 44% is present, the loads on the inner screws increase by a factor of 3 and the loads of the distant screws, by a factor of only 1.3. The maximal pressure in the bone cross section increases 4-fold. Record Date Created: 19910314

22/7/8 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.
12532679 BIOSIS NO.: 200000286181
Provisional fixation pin.
AUTHOR: Castleman David(a)
AUTHOR ADDRESS: (a)Bartlett, TN**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1227 (3):pNo pagination Oct. 19, 1999
MEDIUM: e-file.
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: **A method and apparatus for reducing a fracture provides a provisional fixation pin to provisionally affix the bone plate to the bone prior to the installation of the bone plate with permanent attachment, such as bone screws.** The method and apparatus of the present invention will maintain some reduction without significantly compromising the bone. The method utilizes a provisional fixation pin having an upper or proximal unthreaded shaft section and a lower externally threaded shaft section. A cutting tip is provided at the extreme distal end of the fixation pin . In between the proximal and distal sections is an enlarged diameter section that has an annular surface sized and shaped to conform to the countersunk surface of openings in the bone plate .

22/7/16 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.
00566259 EMBASE No: 1976121887
Intramedullary nail with transverse nailing for fractures of the femur and tibia
EL ENCLAVADO INTRAMEDULAR ENCLAVIJADO DE FEMUR Y TIBIA
Klemm K.; Schellmann W.D.; Vittali H.P.
Berufsgenossenschaftl. Unfallklin., Frankfurt/M. Germany
BULL.SOC.INT.CHIR. 1975, 34/2 (93-96)
CODEN: BSICA
DOCUMENT TYPE: Journal
LANGUAGE: SPANISH
**The locking of the intramedullary nail with threaded bolts through perforations in the nail permits a considerable widening of the indications for the intramedullary nail .** With the interlocking nail fractures of the femur and tibia close to the joints, comminuted fractures of the shaft, pseudarthroses with defect and osteotomies for

lengthening of the femur can be osteosynthesized. In comparison to the osteosyntheses with straight and angulated plates there is less danger of devitalisation and weight bearing is possible much earlier. So far 63 osteosyntheses with the interlocking nail were carried out. The advantages of the new technique are demonstrated.

24/6,K/15 (Item 6 from file: 5)
DIALOG(R)File 5:(c) 2002 BIOSIS. All rts. reserv.
12532711 BIOSIS NO.: 200000286213
Threaded insert for bone plate screw hole.
1999
ABSTRACT: A threaded insert is designed to snap into a standard bone plate hole. The insert has an upper section divided into sectors by slots, a lower section...
...fixes the screw to the plate by collapsing the threads of the insert onto the threads of the screw , and by expanding the sectors of the upper section to clamp the bone plate .

24/6,K/17 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
07251101 Genuine Article#: 139YA Number of References: 21
Title: DHS screw plates for trochanteric fractures. Impaction analysis according to fracture type (ABSTRACT AVAILABLE)
Publication date: 19981000
Abstract: Introduction
The sliding plate has appeared to be a reliable answer for trochanteric fractures. However, impaction allowed by the...
...a 4,2 sex ratio (16 males). One hundred and thirty five degrees free sliding plates were employed for fracture fixation . Full weight bearing was allowed in 78,6 per cent of patients. According to Ender...
...8. The results were assessed on AP and lateral X-rays. The ratio between screw thread length (constant) and screw outside the barrel length, was used to measure impaction on AP...
...Results
Despite two screw protrusions out of the femoral head and two failures of the plate , we have observed a healing rate of 100 per cent after three months. Sliding averaged...
...Osteoporosis does not seem to be the major factor regarding screw sliding.
Conclusion
The sliding plate is reliable. However, complex fractures healed in a wrong position which is definitely not acceptable, especially for young patients. Therefore, we advise to avoid the use of sliding plate in case of Ender type 6, 7 and 8...

24/6,K/18 (Item 2 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
05110700 Genuine Article#: VA930 Number of References: 30
Title: IN-VITRO FEMORAL STIFFNESS AFTER FEMORAL-NECK OSTEOTOMY AND OSTEOSYNTHESIS WITH DEFINED SURGICAL ERRORS (Abstract Available)
...Abstract: LiH, PSAB, Sweden). The first device has its main grip in the cancellous bone by threads ; the second has grip in cancellous and subchondral bone by threads ; and the third, which has no threads , has its grip in cancellous bone by a hook pin . The intact specimen was in all instances stiffer (22-63%) than the osteosynthesized specimen (p...
...respectively, and for the LiH screws 47% and 63%, respectively. Use of a

device with threads and grip in the subchondral bone is recommended for fixation of femoral neck fractures in osteoporotic bone. Furthermore, the importance of anatomical reduction for fracture fixation is emphasized.
...Identifiers--CANCELLOUS BONE SCREWS; FRACTURE FIXATION; SLIDING-SCREW; COMPRESSION; STRENGTH; CADAVER; DEVICES; FEMUR; PLATE; PINS

24/6,K/19 (Item 3 from file: 34)
DIALOG(R)File 34:(c) 2002 Inst for Sci Info. All rts. reserv.
01946644 Genuine Article#: JN515 Number of References: 38
Title: DEGRADATION AND TISSUE REPLACEMENT OF AN ABSORBABLE POLYGLYCOLIDE SCREW IN THE FIXATION OF RABBIT FEMORAL OSTEOTOMIES
...Abstract: three weeks. The first histological signs of degradation were seen at six weeks, along the thread ridge. Premature breakage of the screw resulted in gross displacement and non-union of the...
...Identifiers-- FRACTURE FIXATION ; BIODEGRADABLE IMPLANTS; INTERNAL-FIXATION; DISTAL FEMUR; POLYGLACTIN-910; POLYMERS; PLATE; ANKLE; PINS; RODS
Research Fronts: 90-2143 001 (BACTERIAL COPOLYESTER; BLOCK COPOLYMERS; INVITRO DEGRADATION; FRACTURE FIXATION DEVICES; ABSORBABLE OSTEOSYNTHESIS IMPLANTS; POLYESTER BLENDS)

24/6,K/20 (Item 1 from file: 94)
DIALOG(R)File 94:(c)2002 Japan Science and Tech Corp(JST). All rts. reserv.
02204677 JICST ACCESSION NUMBER: 94A0927149 FILE SEGMENT: JICST-E
Application of Oriented Poly-L-Lactide Screws for Experimental Salter-Harris Type 4 Fracture in Distal Femoral Condyle of the Dog., 1994
...ABSTRACT: 6 months after surgery, minute fissures were histologically confirmed on the surface of the screw thread , suggesting the early stage of biodegradation and absorption of the polymer. During the observational period...
...the PLLA screw might be an ideal implant for the reduction and fixation of epiphyseal plate fractures such as Salter-Harris type 3 or type 4 fractures. (author abst.)
...DESCRIPTORS: internal fracture fixation ; ...screw( fastener );
...BROADER DESCRIPTORS: fracture fixation ; ... fastener ;

24/7/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
13009667 21885040 PMID: 11888195
Distal femoral fractures and LISS stabilization.
Schandelmaier P; Partenheimer A; Koenemann B; Grun O A; Krettek C
Department of Trauma Surgery, Medical University Hannover. peter.schandelmaier@uklibk.ac.at
Injury (England) Dec 2001, 32 Suppl 3 pSC55-63, ISSN 0020-1383
Journal Code: 0226040
Document type: Journal Article; Review; Review, Tutorial
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
In recent years, the technique of surgical stabilization in the distal femur has changed. This change decreased the number of non unions and the need for bone grafting. Minimally invasive surgical techniques with a submuscular plate placement have replaced the emphasis on anatomical reduction in the shaft area. Reconstruction of complex articular injuries

has been simplified by more direct visualization of the articular surface with the lateral peripatellar approach. Problems remaining are surgical technique and implant considerations. The Less Invasive Stabilization System (LISS) simplifies the surgical technique for percutaneous plate osteosynthesis. An insertion guide is used to insert monocortical, self-tapping screws through a stab incision. A thread in the plate provides the angular stability for the anchoring of these screws. In extra-articular fractures and simple intra-articular fractures, the distal femoral nail permits intramedullary stabilization. A spiral blade improves fixation of the distal femoral condylar block. Despite the enhanced surgical technique and implant possibilities, a great number of patients show a functional deficiency. These are particularly patients with complex intra-articular fractures. The 'fatigue failure' of the osteoporotic implant-bone construct is a problem in elderly patients. The LISS represents a good option to avoid the addition of bone cement to an osteosynthesis. (41 Refs.)
Record Date Created: 20020312

24/7/13 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13121944 BIOSIS NO.: 200100329093
Bone stabilizer and method.
AUTHOR: Orlich Jose Luis(a)
AUTHOR ADDRESS: (a)Clinica Orlich, Avenida Central, Calle 16, San Jose** Costa Rica
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1242 (2):pNo Pagination Jan. 9, 2001
MEDIUM: e-file
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English
ABSTRACT: An apparatus and procedure for the external unilateral fracture fixation , fracture compression or enlargement of osseous tissue with a metal or equivalent material slotted forked stick to hold and position the threaded pins in its length, inserted in the bone with multiple fastening slid able screws and their bolts to attach the pins to the slotted forked stick, a solid slid able cube to hold and position the slotted forked stick, a supporting axial bar, and an axial threaded bar. A preferred embodiment includes at least three slotted forked sticks that hold and fix, with the use of compression screws and their bolts, threaded pins that penetrate the proximal and distal fragments of the bone through both corticals. A preferred embodiment includes slotted forked sticks that adapt to the threaded pins , introduced in the bone, at any degree of inclination or orientation that these pins might have with respect to the bone. A preferred embodiment includes metal cubes that are mounted in the supporting axial bar that support and fix the slotted forked sticks allowing a rotational movement and displacement of the slotted forked stick to permit the positioning and fixation of the threaded pins in accordance with the orientation that they have been placed in the bone. A preferred embodiment includes a threaded axial bar with bolts that is held by a fixed stabilizing plate , and when it is fixed to the cubes, controls the compression or distraction of bone tissue by maneuvering the pins .

24/7/16 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10718788 EMBASE No: 2000207007
Percutaneous fixation of proximal humeral fractures
Herscovici D. Jr.; Saunders D.T.; Johnson M.P.; Sanders R.; DiPasquale T.
D. Herscovici Jr., 4175 East Fowler Avenue, Tampa, FL 33617 United States
Clinical Orthopaedics and Related Research ( CLIN. ORTHOP. RELAT. RES. )
(United States) 2000, -/375 (97-104)
CODEN: CORTB ISSN: 0009-921X
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 33
The purpose of the current study is to evaluate the technique of closed reduction and percutaneous pinning of proximal humeral fractures and to determine whether this technique provides enough stability to permit early active range of motion and subsequent fracture healing. Fractures were classified according to Neer et al and were included if the surgical or anatomic neck were angulated greater than 45degree, separation between fragments was greater than 1 cm, or the greater tuberosity was displaced more than 0.5 cm. There were 21 Type II, 16 Type III, and four Type IV fractures. Fractures were pinned using distally threaded Dynamic Hip Screw(R) guide pins , 2-mm Kirschher wires, or 2.5-mm distally threaded Schantz(R) pins . Patients were evaluated for union rates and motion. Assessment was made using the Modified American Shoulder and Elbow Surgeons Form. Thirty-six patients with 37 fractures were available for review with followup averaging 40 months (range, 12-68 months). All patients with Neer Type IV fractures did not respond to fixation and three had avascular necrosis develop, irrespective of the type of pin used. In the remaining 33 patients with Neer Type II and Type III fractures, a union rate of 94% was observed at an average of 2.6 months. All patients had good functional results. In the current series, there were no failures using Schantz(R) pins . There was a 20% failure rate with Dynamic Hip Screw (R) pins (2% if the patients with Type IV fractures were excluded) and a 100% failure rate with Kirschner wires. Stable fixation with early motion and subsequently good results can be obtained using percutaneous fixation in patients with Type II and Type III fractures; however, terminally threaded pins must be used and smooth Kirschner wires must be avoided. Percutaneous fixation cannot be recommended in patients with Type IV fractures.

24/7/21 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01372752 JICST ACCESSION NUMBER: 91A0684602 FILE SEGMENT: JICST-E
Intramedullary nailing with touch-screws for the fracture of the radius & ulna; preliminary report.
YAMAMOTO MAKOTO (1); ONO TSUKASA (1); ITOMAN MORIHIRO (1); SASAMOTO NORIO (2); KITAZUME SHIN (2)
(1) Kitasato Univ.; (2) Kitazatokenkyujokitamotomejikarusentabyoin
Seikei Geka(Orthopedic Surgery), 1991, VOL.42,NO.8, PAGE.1273-1276, FIG.5
JOURNAL NUMBER: Z0212AAI ISSN NO: 0030-5901
UNIVERSAL DECIMAL CLASSIFICATION: 616.71 616.7-089
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

File 155:MEDLINE(R) 1966-2002/Jul W2
File 144:Pascal 1973-2002/Jul W3
File 5:Biosis Previews(R) 1969-2002/Jul W2
File 6:NTIS 1964-2002/Aug W1
File 2:INSPEC 1969-2002/Jul W3
File 8:Ei Compendex(R) 1970-2002/Jul W2
File 99:Wilson Appl. Sci & Tech Abs 1983-2002/Jun
File 238:Abs. in New Tech & Eng. 1981-2002/Jul
File 65:Inside Conferences 1993-2002/Jul W3
File 77:Conference Papers Index 1973-2002/Jul
File 73:EMBASE 1974-2002/Jul W2
File 34:SciSearch(R) Cited Ref Sci 1990-2002/Jul W3
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 35:Dissertation Abs Online 1861-2002/Jun
File 94:JICST-EPlus 1985-2002/Jun W1

| Set | Items | Description |
|---|---|---|
| S1 | 9368 | BONE()PLATE? ? |
| S2 | 3761 | (FASTENER? OR SCREW? ? OR LOCKING()NUT? ? OR FIXATOR? ? OR NAIL? ? OR PIN OR PINS) (2N)THREAD?? |
| S3 | 43349 | (FRACTURE OR SKELETAL)()FIXATION? |
| S4 | 10 | S1 AND S2 AND S3 |
| S5 | 10 | RD (unique items) |
| S6 | 808788 | FRACTURE? ? |
| S7 | 6 | S1(S)S2 |
| **S8** | **1** | **S6 AND S7** |
| S9 | 172352 | FASTENER? OR SCREW? ? ORLOCKING()NUT? ? OR FIXATOR? ? OR NAIL? ? OR PIN OR PINS |
| S10 | 48882 | THREAD?? |
| S11 | 818680 | PLATE OR PLATES |
| S12 | 18 | S3 AND S9 AND S10 AND S11 |
| S13 | 18 | RD (unique items) |
| S14 | 93 | S9(S)S10(S)S11 |
| S15 | 808788 | FRACTURE? ? |
| S16 | 34 | S14(S)S15 |
| S17 | 24 | S16 NOT S12 |
| S18 | 17 | RD (unique items) |
| S19 | 16 | S12 NOT (S5 OR S8) |
| **S20** | **16** | **RD (unique items)** |
| S21 | 24 | S16 NOT (S12 OR S4 OR S8) |
| **S22** | **17** | **RD (unique items)** |
| S23 | 21 | (S7 OR S12) NOT (S8 OR S5 OR S17 OR S21) |
| **S24** | **21** | **RD (unique items)** |

18/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
012796343 **Image available**
WPI Acc No: 1999-602573/199952
Osteosynthetic bone screw for fixing e.g. plate to bone
Patent Assignee: SCHAEFER MICOMED GMBH (SCHA-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|

DE 29810798 U1 19991028 DE 98U2010798 U 19980617 199952 B
Priority Applications (No Type Date): DE 98U2010798 U 19980617
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
DE 29810798 U1 17 A61B-017/58
Abstract (Basic): DE 29810798 U1

NOVELTY - The osteosynthetic bone fixing device comprises a bone screw (1) with a grooved (6) fork head (4) and a supporting pin (2) in the fork head. The fork head is fixed with a screw (3), and the inner side of the leg (5) of the fork head has an inner thread (9) in the form of a Christmas tree thread . A base groove (7) next to a side (10) has a thread running in a radial direction.

USE - For medical use for e.g. fracture fixation .

ADVANTAGE - The device has a minimal space requirement and the fixing of the supporting peg into the fork head is firm.

DESCRIPTION OF DRAWING(S) - The figure shows a cross-sectional view of the synthetic bone device.

Bone screw (1)
Supporting pin (2)
Screw (3)
Fork head (4)
Leg (5)
Groove (6)
Base groove (7)
Inner thread (9)
Side (10)
pp; 17 DwgNo 1/2

Derwent Class: P31
International Patent Class (Main): A61B-017/58
International Patent Class (Additional): A61B-017/68

18/7/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
009308698 **Image available**
WPI Acc No: 1993-002134/199301
Intramedullary inter-trochanteric fracture fixation appliance - has intramedullary rod with angulated opening to relieve femoral neck screw and locking device between screw and wall of opening
Patent Assignee: HOWMEDICA INT INC (HOWN )
Inventor: LAWES P
Number of Countries: 021 Number of Patents: 011
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| EP 521600 | A1 | 19930107 | EP 92303869 | A | 19920429 | 199301 | B |
| AU 9216202 | A | 19930107 | AU 9216202 | A | 19920512 | 199308 | |
| CA 2068139 | A | 19921225 | CA 2068139 | A | 19920507 | 199316 | |
| AU 647619 | B | 19940324 | AU 9216202 | A | 19920512 | 199417 | |
| US 5454813 | A | 19951003 | US 92902103 | A | 19920622 | 199545 | |
| | | | US 93149167 | A | 19931108 | | |
| EP 521600 | B1 | 19960612 | EP 92303869 | A | 19920429 | 199628 | |
| DE 69211429 | E | 19960718 | DE 611429 | A | 19920429 | 199634 | |
| | | | EP 92303869 | A | 19920429 | | |
| ES 2088100 | T3 | 19960801 | EP 92303869 | A | 19920429 | 199637 | |
| IE 79046 | B | 19980408 | IE 921396 | A | 19920701 | 199821 | |
| JP 3109624 | B2 | 20001120 | JP 92166167 | A | 19920624 | 200101 | |

KR 185746 B1 19990401 KR 928753 A 19920522 200113
Priority Applications (No Type Date): GB 9113578 A 19910624
Cited Patents: 01Jnl.Ref; DE 2906068; DE 8701164; EP 321170; EP 441577; EP 251583
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 521600 | A1 | E | 9 | A61B-017/58 | |
| Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE | | | | | |
| AU 9216202 | A | | | A61B-017/58 | |
| CA 2068139 | A | | | A61B-017/58 | |
| AU 647619 | B | | | A61B-017/58 | Previous Publ. patent AU 9216202 |
| US 5454813 | A | | 11 | A61B-017/56 | Cont of application US 92902103 |
| EP 521600 | B1 | E | 11 | A61B-017/58 | |
| Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE | | | | | |
| DE 69211429 | E | | | A61B-017/58 | Based on patent EP 521600 |
| ES 2088100 | T3 | | | A61B-017/58 | Based on patent EP 521600 |
| IE 79046 | B | | | A61B-017/58 | |
| JP 3109624 | B2 | | 6 | A61B-017/58 | Previous Publ. patent JP 5176942 |
| KR 185746 | B1 | | | A61F-002/36 | |

Abstract (Basic): EP 521600 A

The intramedullary intertrochanteric fractove fixation appliance has an intranedullary rod (1) which is introduced into the intranedullary canal of a femur. It has has an argulated opening (2) and a coaxial bore (3) which extends throughout its length. At the distal end (4) of the rod are two holes (5,6) to receives pins or screws to fix and locate the rod in the bone.

Located in the opening is a femoral neck screw (7) with a course screw thread (8) at its proxinal end and a shank (9). This screw also has a longitudinally extending bore (11) through which a guide wire can extend.

USE/ADVANTAGE - Allows screw to be used on lateral bore plate also.

Dwg. 1/13

Abstract (Equivalent): EP 521600 B

An intramedullary intertrochanteric fracture fixation appliance comprising an intramedullary rod (1) having an angulated opening (2) to receive a femoral neck screw (7) having a threaded portion (8) at its proximal end, characterised in that the wall of the angulated opening (2) is shaped (13a) to receive and positively locate interengaging locking means (12,13) which act between the neck screw (7) and the wall of the angulated opening (2) to prevent relative rotation between said neck screw (7) and the rod (1).

(Dwg.1/13

Derwent Class: P31; P32
International Patent Class (Main): A61B-017/56; A61B-017/58; A61F-002/36

18/7/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008659400 **Image available**
WPI Acc No: 1991-163427/199122
Bone fracture fixation device - has fixation plate held adjacent to bone by clamps and joined to it be screws and having spikes penetrating partly into bone
Patent Assignee: NEW YORK SOC RELIEF RUPTURED & CRIPPLED (NYRE-N); NY SOC RELIEF RUPTU (NYRE-N)
Inventor: BENNETT J S; BURSTEIN A H
Number of Countries: 014 Number of Patents: 005

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 5015248 | A | 19910514 | US 90536172 | A | 19900611 | 199122 | B |
| EP 462493 | A | 19911227 | EP 91109549 | A | 19910611 | 199201 | |
| EP 462493 | B1 | 19940921 | EP 91109549 | A | 19910611 | 199436 | |
| DE 69104137 | E | 19941027 | DE 604137 | A | 19910611 | 199442 | |
| | | | EP 91109549 | A | 19910611 | | |
| ES 2060246 | T3 | 19941116 | EP 91109549 | A | 19910611 | 199501 | |

Priority Applications (No Type Date): US 90536172 A 19900611
Cited Patents: EP 295041; GB 1517161; US 4003376
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 462493 | A | | | | |
| Designated States (Regional): AT BE CH DE ES FR GB GR IT LI NL SE | | | | | |
| EP 462493 | B1 | E | 11 | A61B-017/58 | |
| Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI NL SE | | | | | |
| DE 69104137 | E | | | A61B-017/58 | Based on patent EP 462493 |
| ES 2060246 | T3 | | | A61B-017/58 | Based on patent EP 462493 |

Abstract (Basic): US 5015248 A

The bone fracture fixation device for stabilizing a fracture of a portion of a long bone overlying or closely adjacent to a prosthetic joint component comprises a fixation plate that is held adjacent to the bone by clamps joined to it by screws.

The fixation plate and clamps have spikes that penetrate partly into the bone to fix the bone to the device and stabilize the fracture but that also remain partly outside the bone and serve as spacers to hold the plate and clamps spaced apart from the bone, thereby leaving the periosteum undisturbed and preserving good blood distribution to the bone at the fracture site and hence good conditions for healing of the fracture .

ADVANTAGE - Stabilizes the fracture so it can heal and does not require immobilization of the joint thus enhancing the healing process by preserving good blood flow to the fracture site. (8pp Dwg.No.1/19)

Abstract (Equivalent): EP 462493 B

A bone fracture fixation device for use in stabilising a fracture in a portion of a long bone that overlies or is proximate to a prosthetic joint component comprising an elongated fixation plate (20; 100; 200) having a clamp portion (22; 102; 104; 202) adapted to be disposed adjacent a lengthwise segment of the bone overlying the implant proximate to the fracture , a multiplicity of spikes (32) projecting from the clamp portion (22; 102; 104; 202) and adapted to penetrate partway into the bone and hold the fixation plate (10; 100; 200) stationary relative to and spaced apart from the bone, characterised in that at least two screw holes (44; 112; 208) are provided in each side margin of the clamp portion (22; 102; 104; 202), each of the screw holes (44; 112; 208) in one side being arranged transversely substantially opposite a screw hole (44; 112; 208) in the other side with respect to the longitudinal axis of the fixation plate to thereby form opposite hole pairs, at least two clamps (52) are provided, each being generally C-shaped and being adapted to embrace partly the bone in a position on the opposite side thereof from the clamp portion (22; 102; 104; 202) of the fixation plate , at least two spikes (32) project from each clamp (52) and are adapted to penetrate partway into the bone and hold the clamp (52) stationary relative to and spaced apart from the bone, a threaded hole (50) is provided in each end of each clamp (52) and is located so as to be in alignment

with a hole pair in the fixation plate (20; 100; 200), and threaded fasteners (48) pass through the screw holes (44; 112; 208) in the fixation plate and into the threaded holes (50) in the clamps (52) and joining the clamps to the fixation plate .
(Dwg.1/19
Derwent Class: P31; P32; V04
International Patent Class (Main): A61B-017/58
International Patent Class (Additional): A61F-005/00

18/7/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003964052
WPI Acc No: 1984-109596/198418
Orthopaedic external fixation device - has bone pins with similar leading and trailing threads, latter of larger dia. to engage threaded bores in main support structure
Patent Assignee: COOMBS R R H (COOM-I); NAT RES DEV CORP (NATR )
Inventor: ELSABA M M
Number of Countries: 002 Number of Patents: 003
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| GB 2128480 | A | 19840502 | GB 8327659 | A | 19831014 | 198418 | B |
| US 4564007 | A | 19860114 | US 83543969 | A | 19831020 | 198605 | |
| GB 2128480 | B | 19860305 | | | | 198610 | |

Priority Applications (No Type Date): GB 8229994 A 19821020; GB 8327659 A 19831014
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| GB 2128480 | A | | 6 | | |

Abstract (Basic): GB 2128480 A
The device is partic. for finger bone fracture fixation and comprises a main support structure and associated bone pins (32-36). Each pin has leading and trailing treads (36, 34) of the same hand and pitch, but with the latter thread of larger dia. to engage any one of a row of like threaded bores through the main structure.
The main structure pref. includes an elongate frame of closed loop form in which two slide plates (12) are mounted in adjustable end-to-end relation. The plates are urged towards interengagement by a screw acting through the frame and one plate . The device also pref. has a cap (37) to cover the exposed trailing ends of the pins .
8/8
Abstract (Equivalent): GB 2128480 B
An orthopaedic external fixation device comprising a main support structure having a plurality of like threaded bores therethrough and a plurality of similar bone pins , each said pin having spaced leading and trailing threaded portions of the same hand and pitch, but with the latter portion being of larger diameterand threadably engageable with any one of said bores.
Abstract (Equivalent): US 4564007 A
The device comprises a main support structure (10) and associated bone pins . Each pin has leading and trailing treads of the same hand and pitch but with the latter thread of larger diameter to engage any one of several threaded bores (19) through the main structure.
Preferably the main structure includes an elongate frame (11) of closed loop form with a separable end (15) and two slide plates (12)

mounted in it in adjustable end-to-end relation. Each plate has at least two bores in an overall array orthogonal of the plates and longitudinal of the frame. The device also preferably has a cap to cover the exposed trailing ends of the pins .
USE - The device is particularly for dorsal application for finger bone fracture fixation .
(6pp
Derwent Class: P32
International Patent Class (Additional): A61F-005/00

29/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
014583238
WPI Acc No: 2002-403942/200243
Osteotomy implant has slot formed transversely through implant portion and thread formed on implant periphery such that thread enables attachment of implant to implant insertion device

29/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
014240676
WPI Acc No: 2002-061376/200208
Mandibular osteosynthesis system has auxiliary reinforcement material extending from locking plate and having two ends fixed by fasteners to locking plate , wherein both ends are interconnected by arcuate portio

29/7/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
013706135 **Image available**
WPI Acc No: 2001-190359/200119
**Repairing method of bone fracture e.g. for mandible, involves securing elongated locking plate with bone using fastener**
Patent Assignee: LORENZ SURGICAL INC WALTER (LORE-N)
Inventor: DUNCAN J A; SCHUMACHER B S; STONE K T
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 6129728 | A | 20001010 | US 9825140 | A | 19980218 | 200119 | B |

Priority Applications (No Type Date): US 9825140 A 19980218
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 6129728 | A | | 9 | A61B-017/56 | |

Abstract (Basic): US 6129728 A
NOVELTY - The method involves securing elongated locking plate (14) with bone using fasteners (18). **The fasteners engage with locking plate and bone simultaneously. Fastening is performed using detachable threaded heads**. (32). The heads and the locking plate are simultaneously removed.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for system for osteosynthesis of mandible.
USE - For repairing bone fracture , deformities e.g. for mandible.
ADVANTAGE - The locking plate enables to achieve desired bone profile faster and cooperates with the geometry of human mandible.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective view of mandibular osteosynthesis system.
Locking plate (14)
Fasteners (18)
Threaded head (32)
pp; 9 DwgNo 1/15
Derwent Class: P31
International Patent Class (Main): A61B-017/56

29/7/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012933212 **Image available**
WPI Acc No: 2000-105059/200009
Fastener for connecting a surgically implantable device for connecting together at least a pair of vertebral bodies of the spinal column
Patent Assignee: UNIV IOWA RES FOUND (IOWA )
Inventor: GOEL V K; PARK J B; POPE M H; WEINSTEIN J N
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 6004323 | A | 19991221 | US 97795611 | A | 19970204 | 200009 | B |

Priority Applications (No Type Date): US 97795611 A 19970204
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 6004323 | A | | 14 | A61B-017/58 | |

Abstract (Basic): US 6004323 A
NOVELTY - A fastener for connecting a surgically implantable device for connecting together at least one pair of vertebral bodies of the spinal column, comprises a nut casing (1) defining a central passageway (3); and a relaxative polymeric material lining (2) the inside surface.
**DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (A) a method for surgically implanting a device for connecting together at least one pair of vertebral bodies of the spinal column, which comprises anchoring bone screws into at least two vertebral bodies;** placing a pedicle plate between the vertebral bodies and longitudinally with the spinal column to define holes for receiving the surgical screws; and engaging the threads of each surgical screw with a relaxatively lined nut to urge the plate against the fractured bone for a time sufficient to allow the spinal column to heal but relaxes the compressive force during the course of healing; (B) a kit for connecting a surgically implantable pedicle plate to a fractured bone, which comprises a surgically implantable pedicle plate ; and a fastener comprising at least two surgical screws, and a nut casing; (C) a kit for connecting together at least a pair of vertebral bodies of the spinal column with a surgically implantable device, comprising a pedicle plate , several surgical screws, and a nut for each surgical screw; and (D) a nut for securing a surgically implantable device comprising a nut casing which is biocompatible, and a relaxative polymeric member insertable within the passageway and capable of engaging a screw member in a threaded relation.
USE - The invention is used for connecting a surgically implantable device for connecting together at least one pair of vertebral bodies of the spinal column.
ADVANTAGE - The invented fasteners are made of a rigid and

durable material that is biocompatible.
DESCRIPTION OF DRAWING(S) - The figure shows the invented nut/ fastener with the polymer insert held in place inside the nut casing.
Nut casing (1)
Polymeric insert (2)
pp; 14 DwgNo 1B/9
Derwent Class: A18; A23; A96; D22; P31
International Patent Class (Main): A61B-017/58

29/7/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012794544 **Image available**
WPI Acc No: 1999-600773/199951
**Fractured bone reducing method**
Patent Assignee: SMITH & NEPHEW INC (SMIN )
Inventor: CASTLEMAN D
Number of Countries: 085 Number of Patents: 005
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 5968046 | A | 19991019 | US 9890117 | A | 19980604 | 199951 | B |
| WO 9962419 | A1 | 19991209 | WO 99US12438 | A | 19990603 | 200005 | |
| AU 9944170 | A | 19991220 | AU 9944170 | A | 19990603 | 200021 | |
| EP 1083837 | A1 | 20010321 | EP 99927206 | A | 19990603 | 200117 | |
| | | | WO 99US12438 | A | 19990603 | | |
| AU 743016 | B | 20020117 | AU 9944170 | A | 19990603 | 200219 | |

Priority Applications (No Type Date): US 9890117 A 19980604
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 5968046 | A | | 10 | A61B-017/58 | |
| WO 9962419 | A1 | E | | A61B-017/80 | |

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

| | | | | |
|---|---|---|---|---|
| AU 9944170 | A | | A61B-017/80 | Based on patent WO 9962419 |
| EP 1083837 | A1 | E | A61B-017/80 | Based on patent WO 9962419 |

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

| | | | |
|---|---|---|---|
| AU 743016 | B | A61B-017/80 | Previous Publ. patent AU 9944170<br>Based on patent WO 9962419 |

Abstract (Basic): US 5968046 A
NOVELTY - A drill (11) with a drill chuck (12) is used to insert a provisional fixation pin (13). The cutting tip (14) cuts into the underlying bone tissue (20) embedding the externally threaded distal section (15). The fixation pin has a lower convexly shaped annular surface (36) which conforms to and fits on the bone plate (19). The pin is rotated until the large diameter section (16) occupies the opening (27).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a bone plate apparatus.
USE - For reducing a patient's fractured bone at a fracture site.
**ADVANTAGE - The fixation pins hold the bone plate in a preliminary position to enable a surgeon to confirm the placement.**

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of the apparatus.
Drill (11)
Drill chuck (12)
Fixation pin (13)
Cutting tip (14)
Distal section (15)
Large diameter section (16)
Bone plate (19)
Bone tissue (20)
Opening (27)
Annular surface (36)
pp; 10 DwgNo 1/11
Derwent Class: P31
International Patent Class (Main): A61B-017/58 ; A61B-017/80
International Patent Class (Additional): A61B-017/86

30/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
013113205
WPI Acc No: 2000-285076/200025
Bone plate apparatus for applying compressive stress over a fracture comprises plate with superior and inferior surface with the fastener aligned with aperture with a nut threaded

30/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
010652581
WPI Acc No: 1996-149535/199615
Bone compression/distraction apparatus - comprises threaded bone pins connected by holders to slotted plates linked by threaded rods

30/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
009802905
WPI Acc No: 1994-082759/199410
Osteosynthesis pin - has conical or pyramidal shank tip and flexible fins at proximal and distal ends

30/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
009774836
WPI Acc No: 1994-054687/199407
Compression-tensioning device for stabilising fractures of long tubular bones of limbs - has fixers of pins in form of two pressing plates with coaxial holes for holder and semi-cylindrical grooves for pin

30/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.
007982343
WPI Acc No: 1989-247455/198934

Femur neck fracture osteosynthesis fastener - has base as plate with threaded pins on outer surface and pressure element plate with slits round outline

30/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004495467
WPI Acc No: 1985-322345/198551
Femur neck osteosynthesis device - has plates with intersecting grooves for pins and threaded rods are bent

30/7/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011341601 **Image available**
WPI Acc No: 1997-319506/199729
Fixation plate for fixing position of fractured bone - has first apertures for threaded fasteners , and second apertures adapted to receive tack for temporary attachment of fixation plate to bone
Patent Assignee: HAUSMAN M R (HAUS-I); HAUSMAN M (HAUS-I)
Inventor: HAUSMAN M R; HAUSMAN M
Number of Countries: 021 Number of Patents: 006
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 9720514 | A1 | 19970612 | WO 96US19540 | A | 19961209 | 199729 | B |
| AU 9711302 | A | 19970627 | AU 9711302 | A | 19961209 | 199742 | |
| US 5676667 | A | 19971014 | US 95569694 | A | 19951208 | 199747 | |
| EP 915683 | A1 | 19990519 | EP 96942156 | A | 19961209 | 199924 | |
| | | | WO 96US19540 | A | 19961209 | | |
| AU 711026 | B | 19991007 | AU 9711302 | A | 19961209 | 199954 | |
| JP 2000501627 | W | 20000215 | WO 96US19540 | A | 19961209 | 200019 | |
| | | | JP 97521484 | A | 19961209 | | |

Priority Applications (No Type Date): US 95569694 A 19951208
Cited Patents: US 5433719; US 5527311
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 9720514 | A1 | E | 22 | A61B-017/80 | |
| Designated States (National): AU CA JP | | | | | |
| Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| JP 2000501627 | W | | 27 | A61B-017/58 | Based on patent WO 9720514 |
| AU 9711302 | A | | | A61B-017/80 | Based on patent WO 9720514 |
| US 5676667 | A | | 9 | A61B-017/58 | |
| EP 915683 | A1 | E | | A61B-017/80 | Based on patent WO 9720514 |
| Designated States (Regional): DE FR GB | | | | | |
| AU 711026 | B | | | A61B-017/80 | Previous Publ. patent AU 9711302 |
| | | | | | Based on patent WO 9720514 |

Abstract (Basic): WO 9720514 A

The fixation plate includes an elongated rigid plate (10) having a number of first apertures (12) spaced along the length of the plate . The first apertures are arranged and sized to receive threaded fasteners for fastening the plate to the bone (52,54) on both sides of the fracture (50).

The fixation plate also includes a number of second apertures (22) spaced along the length of the plate . The second apertures, which are smaller than the first apertures, are arranged and sized to

receive tacks (30) to temporarily attach the plate to the bone on both sides of the fracture .

ADVANTAGE - Permits repositioning of plate and bones after e.g. X-rays without needing disruption of entire assembly.

Dwg.3/4

Abstract (Equivalent): US 5676667 A

An elongated substantially rigid fixation plate system for fixing the position of a fractured bone, said fixation plate system comprising:

a plurality of first apertures located along the length of said fixation plate , said first apertures receiving a threaded fastener for fastening the plate to the bone, wherein said threaded fastener has a shaft of a first diameter; and

a plurality of second apertures having smaller diameter than said first apertures located along the length of said fixation plate , such that said second apertures removably receive a tack to temporarily and firmly attach said fixation plate to the bone, wherein said tack has an insertion portion of a second diameter smaller than said first diameter of said threaded fastener , and wherein a plurality of said second apertures are disposed in an array centered along the length of said fixation plate .

Dwg.3/4

Derwent Class: P31

International Patent Class (Main): A61B-017/58 ; A61B-017/80

30/7/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX



004355756

WPI Acc No: 1985-182634/198530

Compression distraction apparatus attachment - repositioning unit body holds rotatable sphere with threaded aperture for fastener

Patent Assignee: PEREPICHKA V D (PERE-I)

Inventor: PEREPICHKA V D

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| SU 1132932 | A | 19850107 | SU 3536630 | A | 19830110 | 198530 | B |

Priority Applications (No Type Date): SU 3536630 A 19830110

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| SU 1132932 | A | | 4 | | |

Abstract (Basic): SU 1132932 A

The compression distraction device attachment has an L-shaped plate (1) attached by screws to the compression distraction apparatus arch. Attachment base (4) is attached to plate (1) by screws (5). On base (4) there is a threaded strut (6) bearing a carriage (7) which can move up and down strut (6) and be fixed in any position by nut (8) and lock nut (9). Carriage (7) has a spherical pair (10) with an inner sphere and body. The inner sphere can rotate into various positions and be fixed by screws and has a threaded aperture through which a fastener passes. One end of the fastener has a handle for manual rotation. The strut (6) bears a vertical scale with figures which can show up on x-ray images. A similar scale is mounted horizontally on plate (1).

ADVANTAGE - Reduces trauma to the tissues when re-positioning

comminuted fractures by circular motion of their fragments, and assures their accurate positioning. Bul.1/7.1.85 (4pp Dwg.No.2/5)
Derwent Class: P31
International Patent Class (Additional): A61B-017/58

File 350:Derwent WPIX 1963-2002/UD,UM &UP=200246
File 344:CHINESE PATENTS ABS MAY 1985-2002/MAY
File 347:JAPIO Oct 1976-2002/Mar(Updated 020702)
File 371:French Patents 1961-2002/BOPI 200209

| Set | Items | Description |
|---|---|---|
| S1 | 345 | BONE()PLATE? ? |
| S2 | 31401 | (FASTENER? OR SCREW? ? OR LOCKING()NUT? ? OR FIXATOR? ? OR NAIL? ? OR PIN OR PINS) (2N)THREAD?? |
| S3 | 104 | (FRACTURE OR SKELETAL)()FIXATION? |
| **S4** | **1** | **S1 AND S2 AND S3 [a duplicate]** |
| S5 | 28300 | FRACTURE? ? |
| S6 | 10 | S1(S)S2 |
| S7 | 0 | S6 AND S7 |
| S8 | 466136 | FASTENER? OR SCREW? ? ORLOCKING()NUT? ? OR FIXATOR? ? OR N-AIL? ? OR PIN OR PINS |
| S9 | 218680 | THREAD?? |
| S10 | 1535602 | PLATE OR PLATES |
| S11 | 0 | S3 AND S9 AND S10 AND S11 |
| S12 | 0 | S9(S)S10(S)S11 |
| S13 | 28300 | FRACTURE? ? |
| S14 | 0 | S14(S)S15 |
| S15 | 0 | S16 NOT S12 |
| S16 | 110 | S5 AND S8 AND S9 AND S10 |
| S17 | 4 | S3 AND S16 |
| **S18** | **4** | **S17 NOT S4** |
| S19 | 4639 | IC='A61B-017/56' |
| S20 | 3708 | IC='A61B-017/58' |
| S21 | 1585 | IC='A61F-002/30' |
| S22 | 106 | S16 NOT S17 |
| S23 | 110 | S16 NOT S4 |
| S24 | 106 | S22 NOT S4 |
| S25 | 40 | S24 AND S19:S21 |
| S26 | 3344561 | METHOD? |
| S27 | 174723 | PROCEDURE? |
| S28 | 210779 | TECHNIQUE? |
| **S29** | **5** | **S25 AND S26:S28** |
| **S30** | **8** | **(S8(2N)S9 AND S25) NOT S29** |

9/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00524976
Self-locking resorbable screws and plates for internal fixation of bone fractures and tendon-to-bone attachment
Selbstsichernde resorbierbare Schrauben und Platten zum inneren Festmachen von Knochenbruchen und Befestigen von Sehnen an Knochen
Vis et plaques resorbables autobloquantes pour l'immobilisation interne de fractures osseuses et la fixation d'un tendon a un os
PATENT ASSIGNEE:
Synthes AG, Chur, (458210), Grabenstrasse 15, CH-7002 Chur, (CH),

(applicant designated states: AT;BE;CH;DE;FR;GB;LI;LU;NL)
INVENTOR:
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PATENT (CC, No, Kind, Date): EP 530585 A2 930310 (Basic)
EP 530585 A3 940119
EP 530585 B1 961218
APPLICATION (CC, No, Date): EP 92114060 920818;
PRIORITY (CC, No, Date): US 753837 910903
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; LI; LU; NL
INTERNATIONAL PATENT CLASS: A61B-017/58 ; A61L-031/00; A61F-002/08
ABSTRACT EP 530585 A2

An absorbable bone screw (10) and plate (20) system with self-locking properties.

The absorbable bone screw (10) comprises a threaded shaft portion (1) for insertion into bone and a head portion (3) for rigid connection in the screw hole (13) of a bone plate (20), the diameter of said head portion (3) increasing in the direction opposite to the shaft portion (1), and the outer surface of said head portion (3) being provided with a three-dimensional structure (4) in the form of corrugations. (see image in original document)

ABSTRACT WORD COUNT: 90
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPABF1 | 595 |
| CLAIMS B | (English) | EPAB96 | 585 |
| CLAIMS B | (German) | EPAB96 | 497 |
| CLAIMS B | (French) | EPAB96 | 634 |
| SPEC A | (English) | EPABF1 | 2553 |
| SPEC B | (English) | EPAB96 | 2601 |
| Total word count - document A | | | 3148 |
| Total word count - document B | | | 4317 |
| Total word count - documents A + B | | | 7465 |

9/3,AB/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00241175
T-shaped plate for connecting bone splinters with bone shafts and associated screws.
T-formige Platte zur Befestigung von Knochenbruchstucken an Knochen und dazugehorige Schrauben.
Plaque de fixation pour lier des fragments d'os a l'os et vis associees.
PATENT ASSIGNEE:
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(applicant designated states: AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)
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Granowski, Robert, Dr. med., ul.Swierczewskiego 71, Warszawa, (PL)
Ramotowski, Witold, Prof. Dr. med., ul.Irysowa 106, Warszawa, (PL)
Tuziemski, Aleksander, ul. Gospodarcza 19/80, Sosnowiec, (PL)

Pilawski, Kazimierz, ul.Nowickiego 5/93, Warszawa, (PL)
LEGAL REPRESENTATIVE:
Fuchsle, Klaus, Dipl.-Ing. et al (3971), Hoffmann . Eitle & Partner Patentanwalte Arabellastrasse 4, W-8000 Munchen 81, (DE)
PATENT (CC, No, Kind, Date): EP 241914 A2 871021 (Basic)
EP 241914 A3 891025
EP 241914 B1 920812
APPLICATION (CC, No, Date): EP 87105516 870414;
PRIORITY (CC, No, Date): PL 258954 860414
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: A61B-017/58
ABSTRACT EP 241914 A2

This invention relates to a plate for connecting bone splinters with bone shafts.

The plate has a shorter shaft arm (1) and a longer shaft arm (2) situated perpendiculay to each other. In the shaft arm (1) there are two tapered oval pressure holes (3) of identical direction as that of the axis (0) of the longitudinal longer shaft arm ((2). In the same axis, in which each oval tapered pressure hole (3) is situated, in the bottom portion of the shorter shaft arm (1), there are oval tapered pressure holes (5). In the bottom portion of the longer shaft arm (2), in its longitudinal axis (0), there runs a groove (6).

ABSTRACT WORD COUNT: 116
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS B | (English) | EPBBF1 | 229 |
| CLAIMS B | (German) | EPBBF1 | 197 |
| CLAIMS B | (French) | EPBBF1 | 236 |
| SPEC B | (English) | EPBBF1 | 1188 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 1850 |
| Total word count - documents A + B | | | 1850 |

10/6/5 (Item 3 from file: 349)
00531067 **Image available**
PROVISIONAL BONE PLATE FIXATION PIN
Publication Year: 1999

10/6/6 (Item 4 from file: 349)
00379769 **Image available**
TELESCOPIC BONE PLATE FOR USE IN BONE LENGHTENING BY DISTRACTION OSTEOGENESIS
Publication Year: 1997

10/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01143621
Orthopedic lock nut
Orthopadische selbsthemmende Mutter
Ecrou auto-freine orthopedique
PATENT ASSIGNEE:
DePuy ACE Medical Company, (291973), 2260 East El Segundo Blvd., El Segundo, CA 90245, (US), (Applicant designated States: all)
INVENTOR:

Hayes, S. Kyle, 26721 Magdalena, Mission Viejo California 92691, (US)
LEGAL REPRESENTATIVE:
Fisher, Adrian John (52611), CARPMAELS & RANSFORD 43 Bloomsbury Square, London WC1A 2RA, (GB)
PATENT (CC, No, Kind, Date): EP 997107 A2 000503 (Basic)
EP 997107 A3 000607
APPLICATION (CC, No, Date): EP 99306222 990805;
PRIORITY (CC, No, Date): US 130268 980806
DESIGNATED STATES: DE; FR; GB; IE; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: A61B-017/68
ABSTRACT EP 997107 A3

An orthopedic nut secures the end of a bone screw projecting through a bone. The nut has a head portion formed at least in part of polymer. The head portion includes a head of a shape to be received in a torque tool, such as a standard hexagonal wrench, for rotation of the orthopedic nut. The polymer is compressible relative to the materials typically used in bone screws, and thus forms a locking function on the bone screw. Screw threads formed on the inner diameter of a circular opening in the head portion may receive the threads of a bone screw. Threads may also be cut into the head portion by a self-tapping bone screw. The head portion may be used in conjunction with a washer to broaden the area of bearing contact with the bone. The washer is made out of a radiopaque material such as titanium and rotatably attaches to the head portion. Both the head portion and the washer have sleeves which extend into the bone, providing a low profile for the nut.

ABSTRACT WORD COUNT: 177
NOTE: Figure number on first page: 1
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200018 | 666 |
| SPEC A | (English) | 200018 | 4662 |
| Total word count - document A | | | 5328 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 5328 |

10/3,AB/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00748951
Locking plate and bone screw
Befestigungsplatte und Knochenschraube
Plaque de fixation et vis a os
PATENT ASSIGNEE:
Synthes AG, Chur, (458210), Grabenstrasse 15, 7002 Chur, (CH), (Proprietor designated states: all)
INVENTOR:
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LEGAL REPRESENTATIVE:
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PATENT (CC, No, Kind, Date): EP 705572 A2 960410 (Basic)
EP 705572 A3 960807
EP 705572 B1 020123

APPLICATION (CC, No, Date): EP 95107363 950516;
PRIORITY (CC, No, Date): US 317246 941003
DESIGNATED STATES: CH; DE; ES; FR; GB; LI; SE
INTERNATIONAL PATENT CLASS: A61B-017/70; A61B-017/80; A61B-017/86; F16B-025/00; F16B-005/02
ABSTRACT EP 705572 A3

The bone plate comprises an upper surface (6) and a lower surface for application to a bone, characterized in that the lower surface (10) is curved to conform to a cylindrical bone and the upper surface (6) has two intersecting planes (7,8). (see image in original document)

ABSTRACT WORD COUNT: 58
NOTE: Figure number on first page: 1
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPAB96 | 679 |
| CLAIMS B | (English) | 200204 | 487 |
| CLAIMS B | (German) | 200204 | 454 |
| CLAIMS B | (French) | 200204 | 563 |
| SPEC A | (English) | EPAB96 | 1998 |
| SPEC B | (English) | 200204 | 1693 |
| Total word count - document A | | | 2677 |
| Total word count - document B | | | 3197 |
| Total word count - documents A + B | | | 5874 |

10/3,AB/3 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00841099
DEVICE FOR ROTATIONAL STABILIZATION OF BONE SEGMENTS
DISPOSITIF DE STABILISATION EN ROTATION DE SEGMENTS OSSEUX
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
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LITTLE David John II, 43 Landmark Drive, Malvern, PA 19355, US, US (Residence), US (Nationality), (Designated only for: US)
BRESINA Stephen J, Talstrasse 2, CH-7270 Davos Platz, CH, CH (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
LUSUARDI Werther (agent), Dr. Lusuardi AG, Kreuzbuhlstrasse 8, CH-8008 Zurich, CH,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200174261 A1 20011011 (WO 0174261)
Application: WO 2001CH160 20010315 (PCT/WO CH0100160)
Priority Application: US 2000542821 20000404
Designated States: AU BR CA CN CO JP MX US ZA
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Publication Language: English
Filing Language: English
Fulltext Word Count: 5524
English Abstract

A device for rotational stabilization of bone segments comprising a bone plate, a bone lag screw (18), and a locking collar (24). The bone lag screw (18) has a bone-engagement end, a distal end, and a keyed cross-sectional profile, the bone-engagement end configured for engaging a first bone segment. The bone plate has a flat portion for engaging a second bone segment and a barrel portion having an internal bore for slidably receiving the lag screw (18). The locking collar (24) has a keyed internal profile that mates with the keyed cross-sectional profile of the lag screw (18) to rotationally couple the locking collar (24) and the lag screw (18) when the lag screw (18) is inserted through the locking collar (24), and an outer surface configured and dimensioned for (1) free rotation, in a first position, within the internal bore of the bone plate barrel portion and (2) frictionally engaging, in a second position, the internal bore of the bone plate barrel portion to resist or prevent rotation of the collar relative to the bone plate, and thereby resist or prevent rotation of the lag screw (18) relative to the bone plate.

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File 348:EUROPEAN PATENTS 1978-2002/Jul W02
File 349:PCT FULLTEXT 1983-2002/UB=20020718,UT=20020711
Set     Items   Description
S1        511   BONE()PLATE? ?
S2     272644   FASTENER? OR SCREW? ? OR LOCKING()NUT? ? OR FIXATOR? ? OR -
             NAIL? ? OR PIN OR PINS
S3     116422   THREAD??
S4      24950   FRACTURE? ?
S5       1149   IC='A61B-017/56':IC='A61B-017/58'
S6        748   IC='A61F-002/30'
S7         24   S1 AND S2(2N)S3(S)S4
S8          8   S1(S)S4(S)S2(2N)S3
S9          2   S8 AND S5:S6
S10         6   S8 NOT S9
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